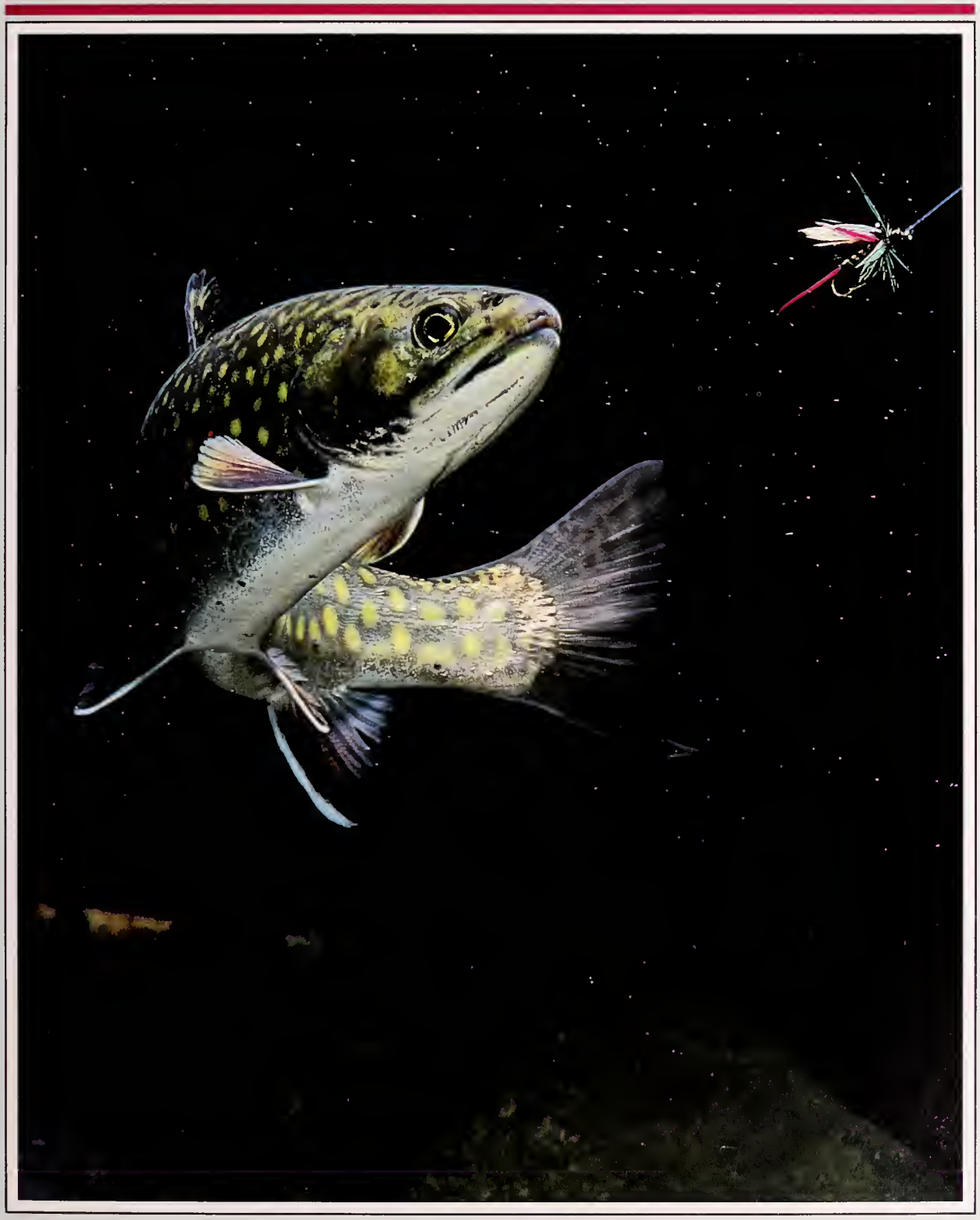
VIRGINIA WILDLIFE

JUNE 1993 ONE DOLLAR



Out on a Limb

"American character is defined more than anything else by the possibility of solitude."—Peter Steinhart, "Essay: Personal Boundaries," Audubon.

In the middle of April this year, when the dogwoods were blooming and we all were convinced there is no other place on Earth to be but in Virginia in the springtime, I happened upon one of our special regulation trout streams we manage cooperatively with a landowner. It is a beautiful limestone trout stream with plenty of trout and watercress blooming in its pools. There was also a family of six or seven furtively cutting and pulling the entire bed of watercress up by its roots and stuffing it all into 20-gallon plastic garbage bags. Each person carried a bag, sometimes two, and they strained to lug the bags to their cars.

Lately, too, I've heard that the beauty of the trillium display in May at the Game Department's G. Richard Thompson Wildlife Management Area (WMA) has prompted some to claw into that exquisite habitat and dig up the wildflowers. Plus, new houses have popped up adjacent to the WMA, scraping clean the precious landscapes that once housed native and rare plant and wildlife treasures.

It seems we can't get enough of the natural world. Many of us will take as much of it as we can get, anytime, anyplace. We like, however, to believe that things have gotten worse in our own lifetimes. We insist that mankind has gone to the dogs. "I can remember a time when people were different," we say.

An archaeologist friend of mine once shocked me by pointing out an Indian site on the banks of the Appomattox River. He said that those ancient people would camp alongside a river, stay until the place became diseased from refuse and waste, their children started dying, and their crops failed. Then, they would simply move on. It seems we *Homo sapiens* have always been "dirty birds," as my friend Christine tactfully says.

There is no doubt that we are, and have always been, the good, the bad, and the ugly. The difference today is the number of us getting in each other's way. It used to be that we could sully our nests, tramp on a few watercress beds, make a few landowners mad, muddy up the waters, and *it didn't matter*. We could always move on or move out. There were too few of us and we were too ill-equipped to be of much consequence to the overall rhythms of life on this lovely planet.

Now, however, times have changed. We not only strain our relationship with the Earth, but we annoy ourselves with our numbers. Nevertheless, we find it rather indecent and ill-mannered to suggest that maybe, just maybe, we invited too many of our kind to this party on the planet. It's not polite to admit there's not much room to dance, anymore.

So, we couch our observations about the effect our numbers have on other species and ourselves in phrases like "loss of critical habitat," "land use planning" and "pollution problems." I once had a biology professor who startled me when she dared to suggest that pollution by any other name might be called *fertilizer*. I was then subjected to a lengthy lecture on the difference between moderation and excess—in both fertilizers and people.

Nevertheless, despite our distaste for discussing the real problem, we finally have woken up to the sense of recycling, reducing, reusing and thinking about our actions. The problem is, we're too late to achieve anything more than simply the status quo, and only that for a limited amount of time. We can stave off the inevitable effects of our crowding by a few more years with our intelligent and gentle use of the life around us, but "recyling, reducing, and reusing" will not, in the end, save the exquisite complexity of the life we know on this planet.

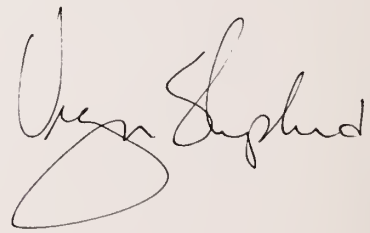
Mother always warned me never to talk about religion or politics at the dinner table. It went without saying that the topic of "s-e-x" was also taboo, unless, of course, it involved other species. Actually, we've become very chatty on the subjects of the carrying capacity, reproductive strategies, and age-sex ratios of deer, rabbits, striped bass and gypsy moths. But when it comes to us, it's a no-no.

Why? Because we're deathly afraid of government control of our private lives. And rightly so. We learned the hard way a long time ago that laws have no place in discussions of reproductive freedom. But a *society* does.

The late Joseph Campbell once said: "Man should not be in the service of society; society should be in the service of man." Whenever we hear of another law passed or another regulation proposed, we are losing another freedom, locking another door, closing another gate. It is time to think about these things and search hard for answers that don't require a lawyer, a lawsuit, or a badge to make them stick. We must develop an "ethos," what Joseph Campbell calls "a number of understood, unwritten rules by which people live...a mode, an understanding that 'we don't do it that way.'"

No law will ever be strong enough to guarantee our freedom to walk in wilderness or fish a clear trout stream alone. No law can guarantee there will always be land left for our black bears, pink ladyslippers, and our piping plovers to prosper in.

And no law can give us back our dancing room. But we can bring it back *ourselves*—if we're willing to face the music.



Bet you didn't know the eastern ribbon snake ***(above)*** *prefers its dinner whole and hopping. Frogs and salamanders suit it fine. Learn more about the refined (and not-so-refined) eating and foraging habits of our snakes beginning on page 9; photo by Rob Simpson.*

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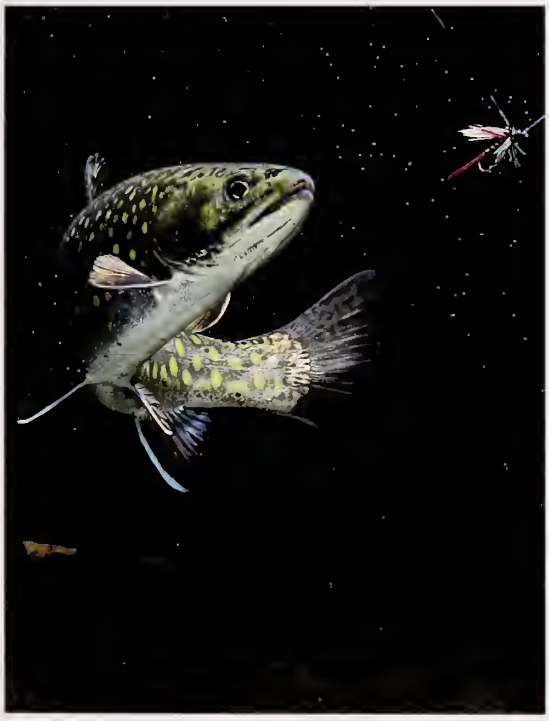


Cover: Brook trout; photo by M. L. Giovannetti. Go fishing for trophy-sized brook trout at Douthat State Park. Read more about the great fishing at Virginia's State Parks beginning on page 4.
Back cover: Celebrate National Fishing Week June 7-13 early by fishing free (without a license) on June 5 and 6. Take a friend fishing! Photo by Dwight Dyke.

Features

4 **Virginia's State Parks (and Fishing Holes)** by R. Thomas Griffin and Mary Mahoney Hall
Looking for the best fishing holes in Virginia? Grab a map and circle Virginia's State Parks.

9 **Tales of Couch Potatoes and Heat-Seeking Missiles** by Joseph C. Mitchell
The secret lives of our snakes.

18 **Pole Tales** by Jack Randolph
It's simple and fine. It's cane pole fishing.

21 **June Firecrackers** by Gerald Almy
Looking for some fishing excitement to crack the heat of summer? Try fishing for trophy bluegills and shellcrackers in some special tidewater lakes.

25 **Streamers and Smallmouths** by Harry Murray
You can't go wrong with streamers when you fly fish for smallmouths—be it spring, summer, or fall.

June Journal

30 News
32 Recipes
33 Photo Tips
34 Boating Safety
35 Outdoor Almanac

Dedicated to the Conservation of Virginia's Wildlife and Natural Resources

VOLUME 54 NUMBER 6

Virginia's State (and Fishing

by R. Thomas Griffin and Mary Mahoney Hall

Did you know that three state record northern pikes were caught at Hungry Mother State Park?

Where? Hungry Mother State Park in Smyth County in southwest Virginia. In 1987 a record northern pike was taken from the lake, weighing in at 27 lb. 12 oz.; in 1986 a 24 lb. 6 oz. record was pulled from the lake; and in 1985, a 23 lb. 4 oz. monster was landed at this state park lake.

And did you know that a chain pickerel state record was caught at Douthat State Park?

That's right, there's more than just great trout at Douthat State Park in Bath and Alleghany counties. Anglers in 1992 brought in three citation pickerels (minimum 4 lbs.), in addition to the 7 lb. 1 oz. record caught in 1989 that was surpassed only this year by an angler landing a 7 lb. 8 oz. fish at Lake Cohoon in tidewater Virginia. As for the trout last year, nine citation rainbow trout (4 lbs. minimum) and 10 citation brook trout (2 lbs. minimum) were pulled from the 60-acre lake, site of a fee-fishing trout program.

If you're looking for award-winning fish, look no further than Virginia's State Parks. Several state parks are located on the Commonwealth's four largest lakes and other important waterways, such as the James, Potomac and York rivers.

The Commonwealth's newest state park, Kiptopeke, is an angler's haven on the Chesapeake Bay side of Virginia's Eastern Shore. The park is located at the site of the old ferry terminal in Northampton County. Its concrete ships, sunk and used as a breakwater for the ferry docks, have long been noted hideouts for sea trout, flounder, spot, croaker and tautog. The new park also features the state parks' only fishing pier open around-the-clock in season.

As you can see, state parks offer

the fishing family access to most of Virginia's major waterways. But some of the Commonwealth's lesser known fishing hot spots are found in the state parks' seven smaller man-made lakes.

These parks have long been known for their scenic beauty and relaxing atmosphere. Gasoline motors are not allowed on these smaller state park lakes to allow guests a safe and peaceful experience on the water. Electric trolling motors are allowed.

Now, however, these lakes are making names for themselves among the anglers. Thanks to cooperative management by the Virginia Department of Conservation and Recreation (DCR) and the Virginia Department of Game and Inland Fisheries (VDGIF), these parks are starting to provide some of the best catches in the state.

"We're working closely with the Department of Game and Inland Fisheries to ensure proper management of the fisheries in our parks," said J. Robert Hicks, Jr., DCR director. "Cooperative management is one way the state parks work to strike a balance between conservation of natural resources and recreation."

The fisheries program in the smaller lake parks is a good example of this balance. State parks staff and VDGIF staff work together to manage, stock and regulate these lakes in accordance with the fish populations most suited to the location, water quality, vegetation, size and depth. VDGIF biologists evaluate these variables and consult with park officials about their management and recreational goals to develop a plan for the lakes. These comprehensive plans include guidelines for stocking, water monitoring and fish structuring.

Looking for the best fishing holes in Virginia? Grab a map and circle Virginia's State Parks.

Staff at Fairy Stone, Bear Creek Lake, Holliday Lake and Hungry Mother State Parks have submerged trees and other brush in the lakes for improved fish-habitat structures. At Fairy Stone, Bear Creek Lake and Hungry Mother, this has been done in conjunction with Christmas tree recycling, a park conservation project. Discarded Christmas trees from local residents are deposited in specific areas of the lake where they are used to create fish habitats rather than hauling them to a landfill or burning them. Park and VDGIF staff have deposited more than a 1,000 trees in the lake since the program began six years ago. Signs on shore or buoys mark the location of the structures.

According to John Grooms, park manager at Fairy Stone State Park, this project is quite popular. "The fishermen say they're catching more and bigger fish, and there are more and more people out there all the time."

Several years ago, an overabundance of algae and aquatic grasses caused concern at two state park lakes in central Virginia. VDGIF began stocking grass-eating hybrid carp at Bear Creek Lake and Twin Lakes to manage algae and weed problems. "Now, Bear Creek Lake has one of the healthiest, most diverse fish populations in the state," says Tom Gunter, VDGIF biologist. The fishery at Prince Edward Lake in Twin Lakes State Park is also quite healthy now.

Another new practice to improve the fishing at these lakes is to limit the amount and frequency that the lake levels are dropped for winter maintenance. Previously, the lakes were automatically dropped every winter; however, VDGIF biologists felt this was disturbing fish habitat and causing sporadic frenzied feeding of predators. Now, these parks only lower the lakes every three years for repairs, with the drop still being less than the previous yearly drops.

*Virginia's state parks not only provide outstanding family recreation (**opposite page**; photo by Dwight Dyke), but trophy-sized fish of species such as the northern pike (**left**; photo by Doug Stamm) can be caught at them by the serious angler.*

These cooperative management efforts are done to provide quality fishing for the serious anglers. But these parks also provide the ideal vacation for the casual angler, and for family members who may be less inclined to casting all day.

The parks offer a variety of family-oriented recreation options, including hiking, bicycling, boating and swimming, plus programs on nature and history. Perhaps one of the best park features for the angler with a family is the children's programs focusing on fishing with local anglers throughout the summer.

Fairy Stone, Hungry Mother and Pocahontas frequently have hosted a Kids' Day and fishing tournament with their local bass clubs.

Another initiative to introduce more people to fishing is the installation of wheelchair-accessible fishing piers at Fairy Stone, Hungry Mother and Pocahontas State Parks. These piers are wider and have a railing along the edges low enough to allow persons in wheelchairs to fish over the rail.

The goal of all these programs is to provide quality and enjoyable fishing for all anglers. Let's take a look at the fishing in each of these seven smaller lake parks to see what they offer.

Fairy Stone State Park

"Fishing at Fairy Stone has improved dramatically over the last four years, especially for largemouths," says Grooms. An 11 lb. 4 oz. trophy largemouth was pulled out of Fairy Stone Lake in 1989. Grooms attributes this improvement to great fish structure in the lake, improved by the joint efforts of the park and VDGIF.

Despite the improvements in largemouth fishing, crappie are still the major draw at this lake. Located in Patrick and Henry counties, west of Martinsville, Fairy Stone Lake is a moderately deep, 168-acre lake featuring healthy populations of crappie, largemouths, bream and channel catfish. Channel catfish are the only species currently stocked. Fishing traffic is typically light during the week to medium on weekends.

Twin Lakes State Park

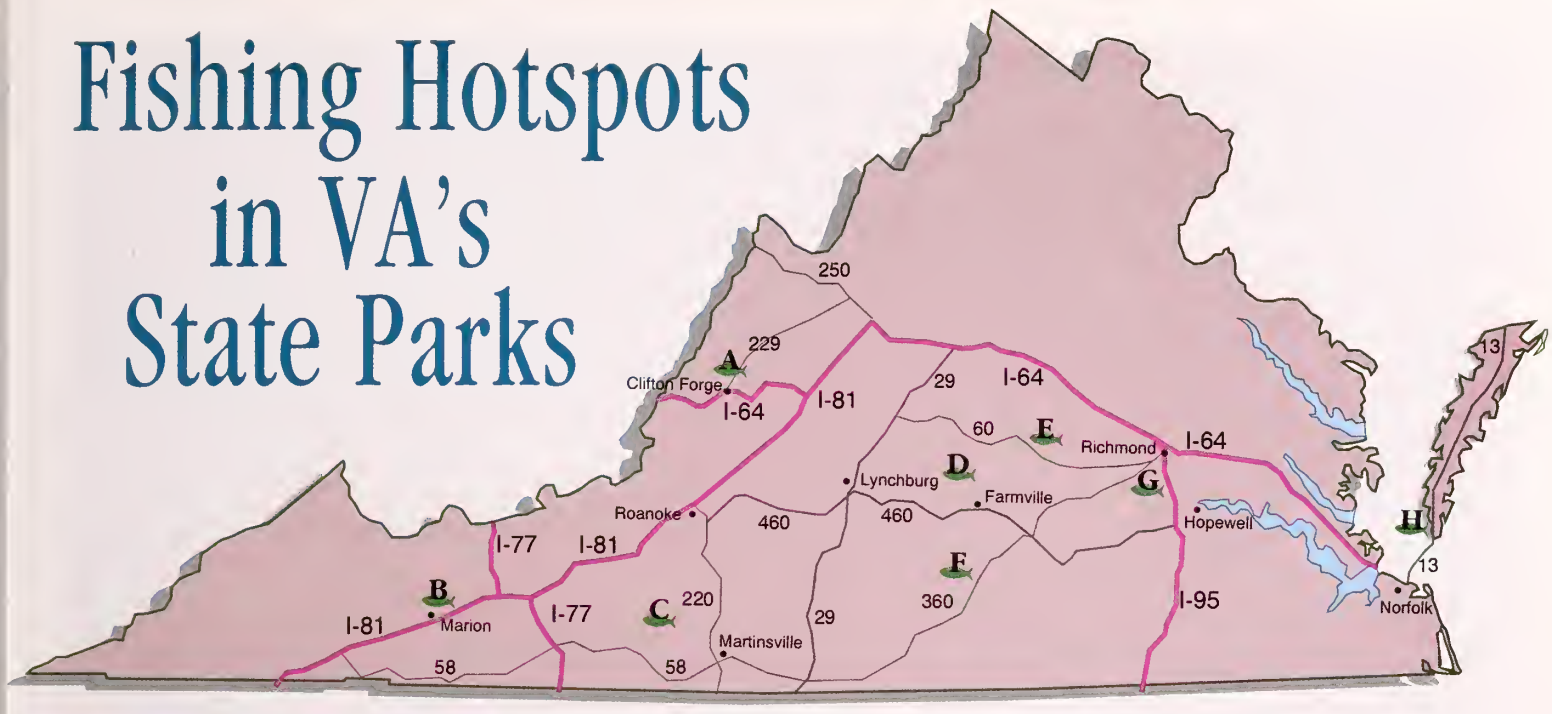
Located in Prince Edward County just an hour away from Richmond, this park's two lakes give anglers a choice. Twelve-acre Goodwin Lake has campgrounds nearby and is well suited to bank and dock fishing, especially for the younger set. Prince Edward Lake at 36 acres is just a quarter of a mile away and offers a boat ramp and strong crappie population. Also in the lake are bream, largemouth, channel catfish and a few hybrid stripers.

Bear Creek Lake State Park

Preliminary testing and sampling by VDGIF shows that this 41-acre lake in Cumberland County has one of the state's healthiest fisheries, supporting well-balanced populations of largemouths, crappie, bream and channel catfish.

Park Manager Scott Shanklin says many campers at Bear Creek Lake also take advantage of the good fishing in the four nearby lakes in Cumberland State Forest. Managed by the Virginia Department of

Fishing Hotspots in VA's State Parks



*Key to map: **A:** Douthat State Park (703/862-7200); **B:** Hungry Mother State Park (703/783-3422); **C:** Fairy Stone State Park (703/930-2424); **D:** Holliday Lake State Park (804/248-6308); **E:** Bear Creek Lake State Park (804/492-4410); **F:** Twin Lakes State Park (804/392-3435); **G:** Pocahontas State Park (804/796-4255); **H:** Kiptopeke State Park (804/331-2267). For more information, write to: Virginia State Parks, 203 Governor St., Suite 306, Richmond, VA 23219, or call 804/786-1712.*
***Bottom left:** Virginia's state parks provide fishing and recreational opportunities for all ages; photo by Soc Clay.*
***Opposite page**: Kiptopeke State Park (**top**) is Virginia's newest park and features a fishing pier open 24 hrs. a day during the season. Bear Creek Lake State Park (**bottom**) has one of the state's healthiest fisheries, supporting largemouths, crappie, bream and channel catfish. Photos courtesy of VA Division of State Parks.*

Forestry, Lake Winston, Lake Arrowhead, Bonbrook Lake and Oak Hill Lake are all within minutes of the park. Anglers can camp at Bear Creek Lake State Park while sampling a variety of fisheries in the area.

Holliday Lake State Park

The cold clear waters of Holliday Lake are much appreciated by the pickerel and northern pike that haunt the 30-foot depths of the 113-acre lake in Appomattox County. Largemouths, crappie, bream and channel catfish are also healthy in the lake. The northern pike and channel catfish are stocked annually. With the assistance of new structures and a contour map plotted by VDGIF biologist Gunter, anglers will have an easier time of tracking down the big ones.

Several years ago, Holliday Lake initiated a weekend night fishing program to beat the heat. Friday and Saturday nights in July and August the park stays open until midnight to accommodate anglers.

"The fishing is better when it's cooler, and this extension gives more people an opportunity to take advantage of that," Park Manager Jeff Foster explained. "We get quite a few folks out there each night. It's been real popular."

The park has rowboats, canoes and paddleboats available for rent during daylight hours only. Night anglers must bring their own boats and follow U.S. Coast Guard regulations for night boating. Night boating is allowed only on Friday and Saturday nights in July and August.

Pocahontas State Park

Just 20 minutes south of Richmond, Pocahontas State Park in Chesterfield County provides access to 150-acre Swift Creek Lake. Due to dam repairs that called for draining the lake during the winter, Swift Creek Lake will not be open for fishing until 1994. However, with VDGIF stocking this year, future anglers will find a much improved fishery.

The lake does remain open for cartop recreational boating. Paddleboats, rowboats and canoes can be rented during the day in season.

"The dam we repaired was built in the 1930s," said Park Manager Ed Swope. "We needed to make extensive repairs before it became a safety hazard. Game Department biologists are testing now to see what type of stocking program will best serve the lake. In the long run, fishing will be greatly improved by these actions." Swift Creek Lake previously supported healthy populations of largemouth, crappie, pickerel, bream and channel catfish.

Hungry Mother State Park

Hungry Mother State Park in Smyth County has an extensive fish-

Virginia's State Parks have been working with VDGIF to develop fishing lakes which support trophy trout, northern pike, chain pickerel, and largemouth bass in many of their lakes, along with easy-to-catch fish for the younger set. ***Top****: photo by Dwight Dyke.* ***Above****: photo by Pels.*

ery management program for a lake its size, according to John Jessee, southwest Virginia VDGIF biologist. "This is probably mostly due to Hungry Mother's proximity to the fish hatchery in Marion," Jesse said.

Whatever the reason, the deep 108-acre lake is stocked with a diverse community of game fish, including walleye, muskellunge and smallmouth. Largemouth, crappie and channel catfish are also prevalent in the lake. Last year, two northern pike citations came from Hungry Mother Lake, and in 1987, an angler pulled the still-standing state record (27 lbs. 12 oz.) from the lake.

"Overpopulations of roughfish (suckers), carp and crappie support large populations of predator fish," Jessee noted.

Community support for this fishery is strong, with the local angler association sponsoring interpretive programs, lake cleanups, a carp rodeo and other activities. Thanks in part to this group's efforts, several years ago the county received a grant from VDGIF to build a new boat ramp and parking area in the park.

Douthat State Park

Nestled in the Allegheny Mountains near Clifton Forge, this state park offers a fee-fishing program with twice-a-week trout stocking, not to mention "one of the best pickerel fisheries in the state," according to VDGIF Biologist Larry Mohn. Mohn said the strength of this fishery is surprising because the lake was drained in the late 1980s.

"Douthat's bass and pickerel populations had to start over when their lake emptied several years back," he explained. "Restocking of bass has resulted in a healthy crop in the three-to-four-pound range. The pickerel were not restocked, but we're taking record fish out of the lake." Mohn theorizes that the pickerel survived by swimming up into the creek and streams that feed the lake.

Trout fishing has always been a major attraction at Douthat and the park offers many accommodations for the anglers. In fact, the campgrounds at this park open a week before the other state parks campgrounds to accommodate the opening of trout season. This year the trout stocking area was extended to include a portion of Wilson Creek below the Douthat Lake dam.

From the cool deep waters of Holliday Lake to the trout-filled waters of Douthat Lake, anglers are sure to find the big fish biting at Virginia State Parks. By working with VDGIF, these parks are maximizing their fisheries to offer anglers the best in fishing, along with the best of Virginia's outdoors for the entire family.

Tom Griffin, an Environmental Programs Analyst with the Department of Conservation and Recreation, is also an avid fisherman. Mary Hall is a freelance writer and former editorial assistant for the DCR. She and her husband spend most of their free time camping and hiking.

*The eastern milk snake/scarlet kingsnake intergrade (*Lampropeltis triangulum*) found in southeastern VA is primarily a lizard eater; photo by R. W. VanDevender.*

Tales of Couch Potatoes and Heat-Seeking Missiles

by Joseph C. Mitchell

Misconceptions and snakes seem to go together like ice cream and hot apple pie. Contrary to what many people think, snakes are not slimy, they don't normally travel in pairs, they don't wriggle until sundown if you kill them, they don't go blind in August, and black snakes do not mate with copperheads to produce a hybrid, venomous black snake. But, yes, some will bite underwater.

Another common misconception is that the "woods are full of snakes," implying there is considerable danger to the person who ventures there. However, only a fraction of the 30 species of snakes found in Virginia occur primarily in woods and forests. Others occur in ponds and lakes, rivers, marshes, and swamps. Urban and suburban areas harbor an unappreciated number of species.

Happening upon more than the occasional snake in wild and not so wild Virginia is uncommon, and encountering one of the three venomous species is rarer still. Thus, the vision one might have of encountering numerous snakes when he or she walks through Virginia's habitats is vastly overinflated. This is not to say, however, that one shouldn't be cautious. The rare encounter with a copperhead or rattlesnake burns deep

***Top left**: The **timber rattlesnake** (Crotalus horridus) and the **copperhead** (Agkistrodon contortrix) **(top)** both sit and wait for their prey to come to them. Because they only need a few meals a year, they can afford to wait days for the right one to come along; photos by Rob and Melissa Simpson. **Above**: The **black rat snake** (Elaphe obsoleta) actively searches for prey by burrowing into the forest floor for rodents; photo by R.W. VanDevender.*

into one's memory.

The type of habitat in which one encounters snakes in Virginia is, in part, related to where the snake is hunting for food. Other factors include the location of overwintering and egg-laying sites, movements by both adults during mating season, and young seeking shelter. Although all snakes are predators, they differ in what they eat and in the ways they seek and subdue their prey.

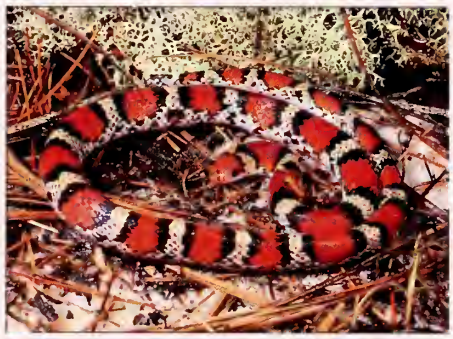
What kind of snakes are you likely to encounter in a particular habitat and what foraging behaviors are they likely to be performing? Although an exhaustive review is beyond the scope of this article, a number of examples will serve to illustrate what you may find when you venture into Virginia's natural habitats. The important thing to remember is that few snakes are exclusively tied to one habitat type. Many of our snakes are generalists and found in several habitats. So what I describe here cannot tell the entire story about each species.

The hardwood forests of Virginia harbor snakes that are adapted to living on or in the forest floor, or above it in the trees. The black rat snake *(Elaphe obsoleta)* is probably the most commonly encountered serpent in this habitat. This large snake often hibernates in hollow trees. Black rat snakes actively search for prey by examining tree limbs for bird nests and their contents, and burrowing in the forest floor for rodents. Once caught, the prey is killed by constriction and swallowed whole. Constriction involves wrapping the prey with coils and tightening the grip with every breath taken by the warm-blooded prey. Death is from suffocation. Black rat snakes frequently move about on the forest floor, where they are most often seen by people.

In contrast to the arboreal and active foraging behaviors exhibited by black rat snakes, timber rattlesnakes *(Crotalus horridus)* and copperheads *(Agkistrodon contortrix)* remain on the forest floor and use the "sit-and-wait" foraging strategy to secure their prey. Both species are found in forested habitats in Virginia. Copperheads occur throughout the Commonwealth and rattlesnakes occur in the mountains and the lowlands of far southeastern Virginia.

While foraging, rattlesnakes will frequently coil beside a log and rest their heads on the side of it. This is why you should not step over a log without looking first. Rodents (mice, voles, chipmunks) run along these logs, using them like roads through the forest. The snake detects the rodent's presence with vision, or (because some foraging occurs at night) with the heat-sensitive cells in the pit on each side of its head. The rodent is killed by the enzyme-laced venom injected into its body through the snake's long, hollow fangs. Most rodents are released, because large ones can bite and damage the fragile skull of these snakes. Rattlesnakes use their highly sensitive tongues to pick up the rodent's trail, follow it, find the prey, check to see if it is dead, and then swallow the prey whole. Copperheads use similar behaviors in their foraging.

Rattlesnakes and copperheads also use the sit-and-wait foraging strategy in other places that may har-



Above: Ringneck snakes *(*Diadophis punctatus*) hunt for small lizards and salamanders under leaf litter, and swallow their prey alive, whole, and usually headfirst; photo by R. W. VanDevender.* ***Top right:*** *The* ***eastern worm snake*** *(*Carphophis amoenus*) also forages actively under the leaf litter and topsoil for—worms; photo by Rob Simpson.* ***Center: Black racers*** *(*Coluber constrictor*) don't mind the summer heat and actively hunt in open fields during the daytime for rodents, small birds, and even turtles; photo by R.W. VanDevender.* ***Bottom:*** *The* ***scarlet snake*** *(*Cemophora coccinea*) found in the eastern half of Virginia actively searches out reptile eggs beneath the soil which they either swallow whole, or chew until they pierce the shell, and then squeeze until the egg pops open; photo by R.W. VanDevender.*

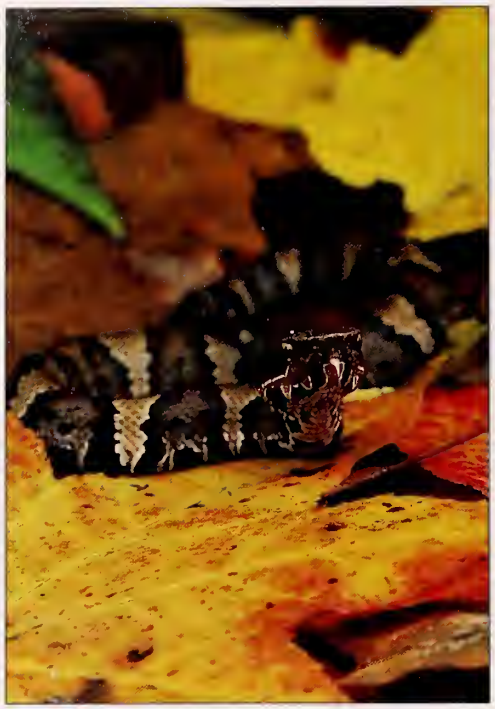
bor rodents. These include rock piles, tree snags, brush piles, and thick vegetation. Copperheads are particularly fond of hedgerows and blackberry patches. Unlike mammals, these snakes do not have to eat frequently. They can remain healthy with just a few meals a year. So they can afford to wait days for the right one to come along.

In the forest floor, beneath the leaf litter and in the humus layer, are found several small, nonvenomous and inoffensive snakes. Ringneck snakes *(Diadophis punctatus)* are small, serpentine predators that search for small lizards and salamanders under leaf litter and cover objects. Once captured, their prey are simply swallowed alive, whole, and usually headfirst. Eastern worm snakes *(Carphophis amoenus)* forage actively under the leaf litter, in the humus layer, and in the topsoil for worms. Their prey, too, are simply swallowed whole. Both species are sometimes found under rocks and logs.

Open fields with grasses are usually too inhospitable for most snakes because of the lack of humus, top soil and moist hiding places. Summer temperatures are too high for most snakes, as well. Black racers *(Coluber constrictor)* are the exception, as these snakes are common inhabitants of old fields. They utilize the active searching mode of foraging, seeking a wide variety of prey types with their relatively acute vision during the daytime. Known prey types are rodents, small birds, lizards, other snakes, frogs, large caterpillars, and even the occasional small turtle. I have seen them foraging with their head raised above the grass, sort of like a cobra that raises up when it is alarmed. The prey item is caught and, if small, will be swallowed alive. If the prey item is large, black racers will pin it with a loop of their body or partially constrict it by wrapping one to several body coils around it.

Sandy areas in Virginia are particularly favored by two snakes that eat substantially different kinds of prey. Sandy soil is not confined to the coastal plain, but occurs as fingers projecting into the piedmont along rivers and streams, and as patches of habitat in other parts of the state. The usual natural vegetation in these areas is native pines or mixed hardwoods. In these sandy areas throughout Virginia can be found a snake with a rather unusual taste for toads.

Most snakes will not eat toads because the glands in the skin on the backs of toads exude a poison that is extremely distasteful, if not deadly. Hognose snakes *(Heterodon platirhinos)*, sometimes called spreadhead moccasins or blow-vipers, seldom eat anything else. These stout-bodied snakes use their upturned snouts to burrow through the sandy soil, seeking out toads buried several inches below the surface. Toads are caught underground and usually brought to the surface, or are caught while on the surface during the daytime. The hognose snake will simply seize the toad, usually headfirst, and begin to swallow. The toad responds by inflating itself as much as it can with air, but the enlarged teeth in the back of the snake's mouth puncture the prey's skin and deflate it. The toad is



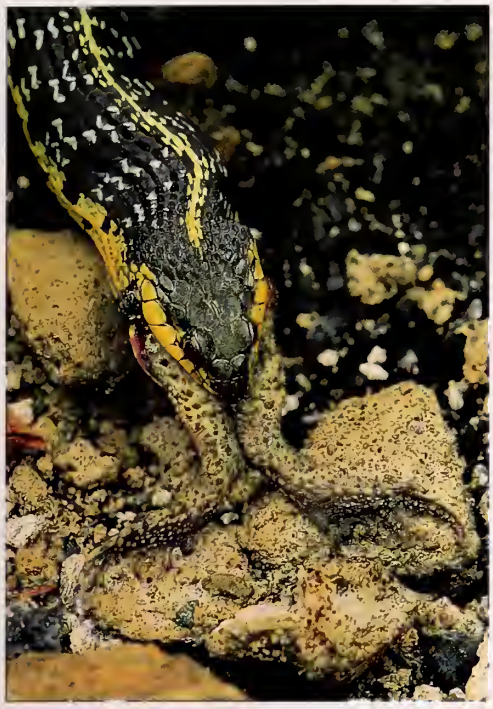
then swallowed alive. There are numerous stories of toads being regurgitated alive and active after a snake was captured by humans. Killing and digestion is accomplished with the powerful digestive enzymes in the snake's stomach.

An inhabitant of sandy, pine woods habitats in Virginia that is seldom seen but impressive because of its bright red and white colors is the scarlet snake *(Cemophora coccinea)*. Scarlet snakes are able to burrow through sandy soil because of their elongated, conically-shaped snouts. They actively search for snake, lizard, and turtle eggs beneath the soil, although they are also known to eat insects, small frogs, lizards, and small snakes. Small eggs are swallowed whole, but large eggs are chewed until the enlarged teeth in the roof of the mouth pierce the egg shell. Scarlet snakes will sometimes wrap around the egg with several body coils to force its contents out. Lizards and other prey are apparently constricted. One of the least known snakes in Virginia, it is active on the surface only on warm summer nights and is otherwise found under rocks, logs, and other cover objects.

One of the most common and mistreated snakes in Virginia, on the other hand, is the northern water snake *(Nerodia sipedon)*. It is frequently called a "water moccasin," suggesting it is venomous and dangerous. It is neither. Northern water snakes occur throughout the Commonwealth in all bodies of fresh water, including ponds, lakes, streams, rivers, swamps, and marshes. The snake with which it is confused, the cottonmouth *(Agkistrodon piscivorus)*, occurs only in southeastern Virginia. Northern water snakes actively forage for frogs, tadpoles, and fish. Foraging occurs during the day in spring and fall but usually at night in summer. In shallow water, the snake will slowly poke its head into places along the usually vegetated bank to locate prey. The slippery fish or frog is seized with the numerous, long, recurved teeth and swallowed alive out of water.

In several of the rivers and large tributaries in the southeastern coastal plain receiving tidal influence, the northern water snake overlaps in distribution with the brown water snake *(Nerodia taxispilota)*. In some places, both can be seen on overhanging branches, snags, and stumps while they are basking. Brown water snakes are active, day-

***Top left**: The **eastern cottonmouth** (Agkistrodon piscivorus) either sits and waits for its prey, or will slip into the water or stealthily seek out frogs, salamanders snakes, turtles, or small mammals on land; photo by Rob Simpson. **Top**: All **hognose snakes** dine almost exclusively on toads, being immune to their toady skin poison (Heterodon simus, a close southern cousin to our own eastern hognose, is pictured here); photo by R. W. VanDevender. **Center**: The **northern water snake** (Nerodia sipedon) occurs throughout the state in freshwater areas where it hunts for frogs, tadpoles and fish; photo by David Liebman. **Above**: The **brown water snake** (Nerodia taxispilota) basks on overhanging branches and snags and is an expert at catching fish, hauling them out of the water to swallow headfirst; photo by R. W. VanDevender.*

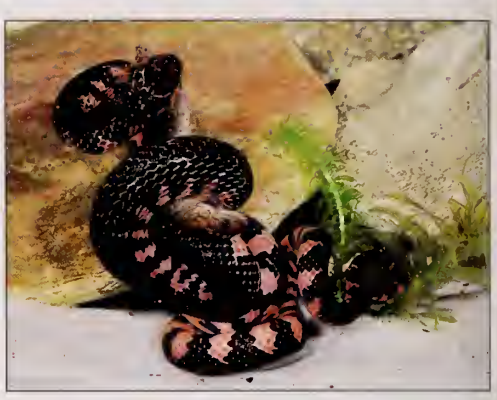


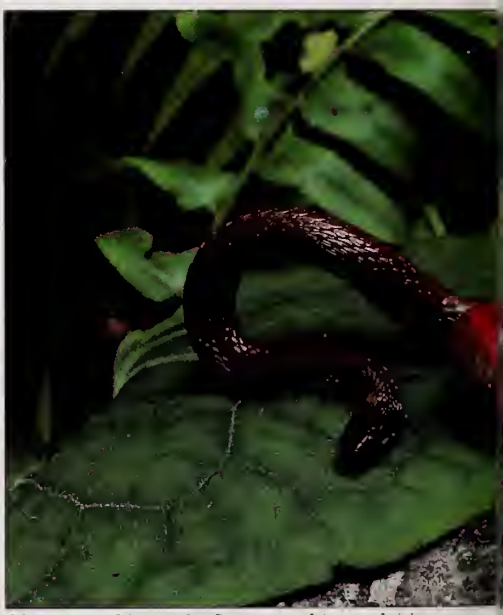
Top left: Eastern garter snakes *(*Thamnophis sirtalis*) prey mostly on salamanders and frogs, though here one is pictured swallowing a live toad.* ***Top right****: The* ***eastern ribbon snake*** *(*Thamnophis sauritus*) is closely related to the garter snake and also dines on salamanders and frogs which it finds in the freshwater marshes it inhabits; photos by Rob Simpson. The female* ***northern water snake*** *is much larger than the male; both are pictured* ***above****; photo by Susan M. Glascock.*

time foragers of fish, particularly the channel catfish. Catfish are caught in shallow water and hauled out on land or on a tree stump or snag to be swallowed, almost always head first. The sharp spines are folded along the sides of the fish so that they do not interfere with swallowing. Brown water snakes occasionally have been found with spines sticking completely out of the snake's body, indicating that this tactic does not always work.

Freshwater marshes are home to two closely-related snakes that prey mostly on salamanders and frogs. Eastern ribbon snakes *(Thamnophis sauritus)* are found in the vegetation bordering flowing and standing water. They bask on branches overhanging the water and drop off at the slightest alarm. Eastern garter snakes *(Thamnophis sirtalis)* are not as arboreal, usually remaining at ground level. Both of these snakes actively forage for prey in the grasses, which they seize and quickly swallow alive. The diet of eastern garter snakes, sometimes incorrectly called "garden snakes," is much more catholic than that of the eastern ribbon snake. Such a broad diet allows it to live in a wider array of habitats, including moist, grassy fields in the mountains and in trash dumps. Eastern ribbon snakes, on the other hand, can occupy brackish marshes along the coast.

Swamps are one of my favorite habitats. In them one can find several species of snakes that, even though they may be found in other wetland habitats, seem to typify the swamp environment. The eastern cottonmouth *(Agkistrodon piscivorus)* is almost synonymous with swamps. It is, of course, the third species of venomous snake occurring in Virginia. Its diet consists of frogs, salamanders, snakes, turtles, birds, and small mammals. In water, cottonmouths use the actively foraging mode of behavior, particularly at night in the warm months. On land they use both active foraging and sit-and-wait foraging. Prey are injected with venom during the bite, but unlike copper-





*The **eastern kingsnake** (*Lampropeltis getula*) is a predator of other snakes and is notorious for being immune to venomous snakebites. The subspecies* Lampropeltis getula nigra *pictured **top left** is found in southwestern Virginia; photo by R. W. VanDevender. **Top:** The **red-bellied water snake** (*Nerodia erythrogaster*) inhabits the southeastern swamps of VA, searching out frogs and fish; photo by Rob Simpson. **Center:** The **eastern mud snake** (*Farancia abacura*) is found in our swamps and is uncommonly seen as it searches for aquatic salamanders called amphiumas and sirens, and the occasional eel; photo by R.W. VanDevender. **Above: Red-bellied snakes** (*Storeria occipitomaculata*) eat slugs and earthworms, swallowing them alive; photo by Rob Simpson. **Opposite page: Northern brown snakes** (*Storeria dekayi*) eat worms and slugs in suburban environments; photo by R.W. VanDevender.*

heads and rattlesnakes, the prey is held until the venom takes effect.

Another denizen of Virginia's southeastern swamps is the red-bellied water snake *(Nerodia erythrogaster)*. This snake, like the closely-related northern water snake, is active during the day in spring and fall, but limits its activities to nighttime in the summer. It feeds on frogs and fish by actively foraging in shallow water and along the edge of the bank in vegetation.

Unlike the species just described, the eastern mud snake *(Farancia abacura)* is found primarily in swamp habitats in Virginia and has a most restricted diet. These snakes are uncommonly seen and are probably more numerous than we know. They actively search in shallow water by probing for elongated, aquatic salamanders called amphiumas and sirens. Mud snakes occasionally will also eat eels. The enlarged teeth in the rear of the upper jaw allows them to obtain a more secure grip on their slippery prey.

All of these snakes of Virginia's swamps are prey for the eastern kingsnake *(Lampropeltis getula)*. This species is notorious for being immune to venomous snakebites. Powerful constrictors, kingsnakes actively forage for a wide variety of prey (not only snakes), including turtles. They are not uncommon snakes, but are not commonly seen, although they inhabit all types of wetlands, including stream corridors and freshwater marshes.

One does not have to venture into the forests, grasslands, and swamps of Virginia to encounter snakes. Backyards, woodlots, and creeks in urban and suburban areas harbor several species. If there is a corridor along a creek allowing dispersal or if the area was once abandoned farmland with one or more remaining patches of forest, then it is likely that snakes will be found there.

In my own backyard and nearby areas in suburban Henrico County, my family and I have found nine species, including ringneck snakes, worm snakes, red-bellied snakes *(Storeria occipitomaculata)*, northern brown snakes *(Storeria dekayi)*, smooth earth snakes *(Virginia valeriae)*, and black rat snakes. The small red-bellied snakes and northern brown snakes are particularly good for our garden because they eat slugs. These snakes and the little smooth earth snake also eat the earthworms that are prolific in our soil. Slugs and all are swallowed alive. All the small species live in the landscaped areas beneath the leaf litter. The black rat snake lives in the woodlot next door. If the right kind of habitat features and prey occur in your yard, then it may also be occu-

pied by these interesting animals.

The 30 species of snakes are all closely tied to their habitats through the prey they eat. The distribution of their preferred habitat and their prey determine where these animals are found in Virginia The decline of some habitats, particularly wetlands, has resulted in a net loss of snake populations and those of their prey.

The misconception that snakes will be encountered everywhere you turn in the forest is grounded in fear and misunderstanding of them and their ecology. These predators are important links in Virginia's ecosystems, but they aren't all found everywhere. Learning snake ecology is a good way to gain an appreciation not only for snakes, but for Virginia's natural environments.

Joe Mitchell teaches conservation biology at the University of Richmond and was the principal researcher on VDGIF's reptile and amphibian survey.

Moving Snakes In And Out Of Your House

Snakes occupied their homes in present-day Virginia long before humans came along. We have built our houses in their habitats and expect to live our lives free of encounters with them. Yet, in both rural and urban areas, snakes turn up in what is to us the unlikely of places, our homes.

There are several things one can do if a snake happens to find its way into your house. First, don't panic. The chance of the snake being venomous is slim and the chance of being bitten by one is slimmer still. I have never heard of a snakebite from an unwanted snake in someone's home. The most important thing to do is to be sure of the snake's identification. If it is not venomous, then a number of options are open. These include:

- Sweeping the snake into a box or trash can and transporting it to a more natural location.
- Calling a friend, neighbor, or relative who can remove it for you in a similar fashion.
- Leaving an avenue of escape for the snake, such as a door left slightly ajar. This assumes that the snake is in a room near an exit. If not, then physical removal may be the only real choice.
- Constructing funnel traps made of screening wire and placing them in areas of the house suspected of harboring the unwanted snake. They should be positioned along the base of walls and in other areas where snakes are likely to crawl. In most cases, traps can be left unbaited, but when black rat snakes or other rodent predators are involved, a mouse can be added. Once caught, the snake can be removed and released unharmed.
- Snake traps can also be constructed by affixing commercially available glue-board or sticky traps to boards and setting them in places where the snake was seen. Snakes moving through the sticky trap become stuck in the glue. They can be removed humanely with cooking oil or similar substance and released elsewhere.

Although rarely encountered in homes, the most likely of the three venomous species to be found there is the copperhead. Small copperheads can be removed with the above methods with little danger. They can strike only about half their length. A large venomous snake should be removed by someone trained in handling them. The Virginia Herpetological Society strongly supports the humane removal and release of snakes from a home or property. Killing a venomous snake is more dangerous than humanely removing it.

The foregoing assumes that the snake can actually be located. I have experienced many instances where a snake was seen by the homeowner, but the person trying to remove it for them couldn't find it. If you call someone, make sure the snake is secured or can be relocated. Snakes will eventually find their way out of homes on their own if left alone.

These suggestions also apply to snakes found in your yard. You can also take precautions to lessen the chance of a snake encounter. These include removing all attractants to the snakes and their prey, such as cover objects and food for rodents, and completely fencing the area with 30+ inch high aluminum flashing or screening partially buried upright in the ground. Several chemical snake repellents are available commercially, but none are known to be truly effective in keeping all snakes from entering homes and yards.

Learn how to identify the snakes in your area, and realize that most are inoffensive and will not bite unless provoked. Some will not bite under any circumstances. Knowing how to remove unwanted snakes humanely and safely will serve you, your neighbors, and Virginia's natural resources.

Do you want to learn more? You can join the Virginia Herpetological Society for $10/year. Write to: Ron Southwick, Secretary/Treasurer VA Herpetological Society, 408 Franklin Drive, Blacksburg, VA 24060.

Show How Much You Care...

Killdeer chick, photo by Joe Mac Hudspeth

...Give To Virginia's Nongame and Endangered Species Fund

Many of Virginia's wildlife are in danger. Suffering from habitat loss and the dangers of pollution which threaten their survival, many species in the state are struggling to survive.

The Department of Game and Inland Fisheries is responsible for the protection and conservation of all wildlife in Virginia, but we receive no state tax dollars, and we need your help to do our job. Help us fund critical research and management programs for the state's nongame and endangered species by contributing to our Nongame Wildlife Fund, which is supported by voluntary contributions made through our state tax checkoff program and direct giving.

Please send in your tax-deductible check (made payable to the Treasurer of Virginia) to: Virginia Nongame Wildlife Fund-VW, Virginia Department of Game and Inland Fisheries, P.O. Box 11104, Richmond, VA 23230-1104.

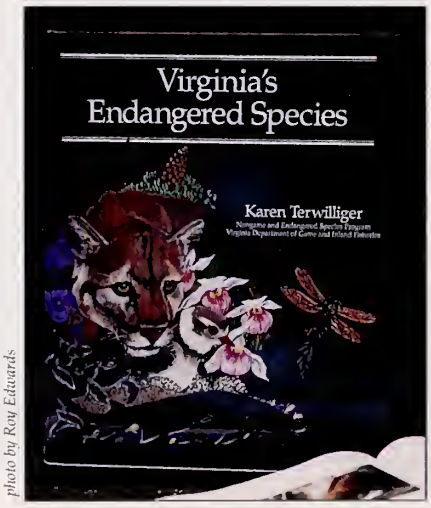


photo by Roy Edwards

Resource Guide Available On Virginia's Endangered Species

Order the only comprehensive resource guide on Virginia's Endangered Species for $32.94 (softcover) or $59.95 (hardcover). This 675-page guide identifies and describes more than 250 rare and endangered plants and animals in Virginia. Produced by the Virginia Department of Game and Inland Fisheries and other state natural resource agencies, this book documents the latest scientific information on Virginia's endangered species, information which is available in no other publication, *anywhere*.

Send your check plus 4.5 percent sales tax and $3.00 ship and handling charges to: McDonald and Woodward Publishing Company, P.O. Box 10308, Blacksburg, VA 24062-0308. Phone: (703) 951-9465.

To order a Virginia's Endangered Species poster featuring the cover illustration on the book (*left*), please send a check for $8 (made payable to: Treasurer of Virginia) to: VA Endangered Species Poster Offer, Attn: Diane Davis, VDGIF, P.O. Box 11104, Richmond, VA 23230-1104.

Preserving in bronze what we're losing in the wild

An Endangered Species Series by Turner Sculpture

Capturing the essence of Virginia's endangered species in bronze, David Turner of Turner Sculpture has just completed the second in his limited edition series to raise funds for Virginia's Nongame and Endangered Species Program.

This time, David has turned his artist's eye toward one of Virginia's rarest mammals, the Northern flying squirrel. An elusive, elf-like spirit of our mountaintop spruce forests, this tiny squirrel weighs no more than five ounces and is known only to three locations in Virginia. Strictly nocturnal, it emerges from its nest of shredded bark, lichens, and moss once darkness has fallen and glides silently from tree to tree, its outstretched feet unfurling the parachute-like flaps of skin attached to each wrist and ankle.

Here, David Turner's 7" high sculpture of a Northern flying squirrel (photo approximates actual size) is poised for flight on an old-growth snag covered with the lichens and bracket fungus which make up a large part of its diet.

Like the bronze sculpture of the Bewick's wren also featured on this page (less than 100 are left for sale), a limited edition of 200 Northern flying squirrels will be cast and sold solely to benefit Virginia's Nongame and Endangered Species Program, the program responsible for the management and protection of all the Commonwealth's rare and endangered wildlife. The money raised from the sale of these two sculptures will provide the program with over1/10th of its present operating budget.

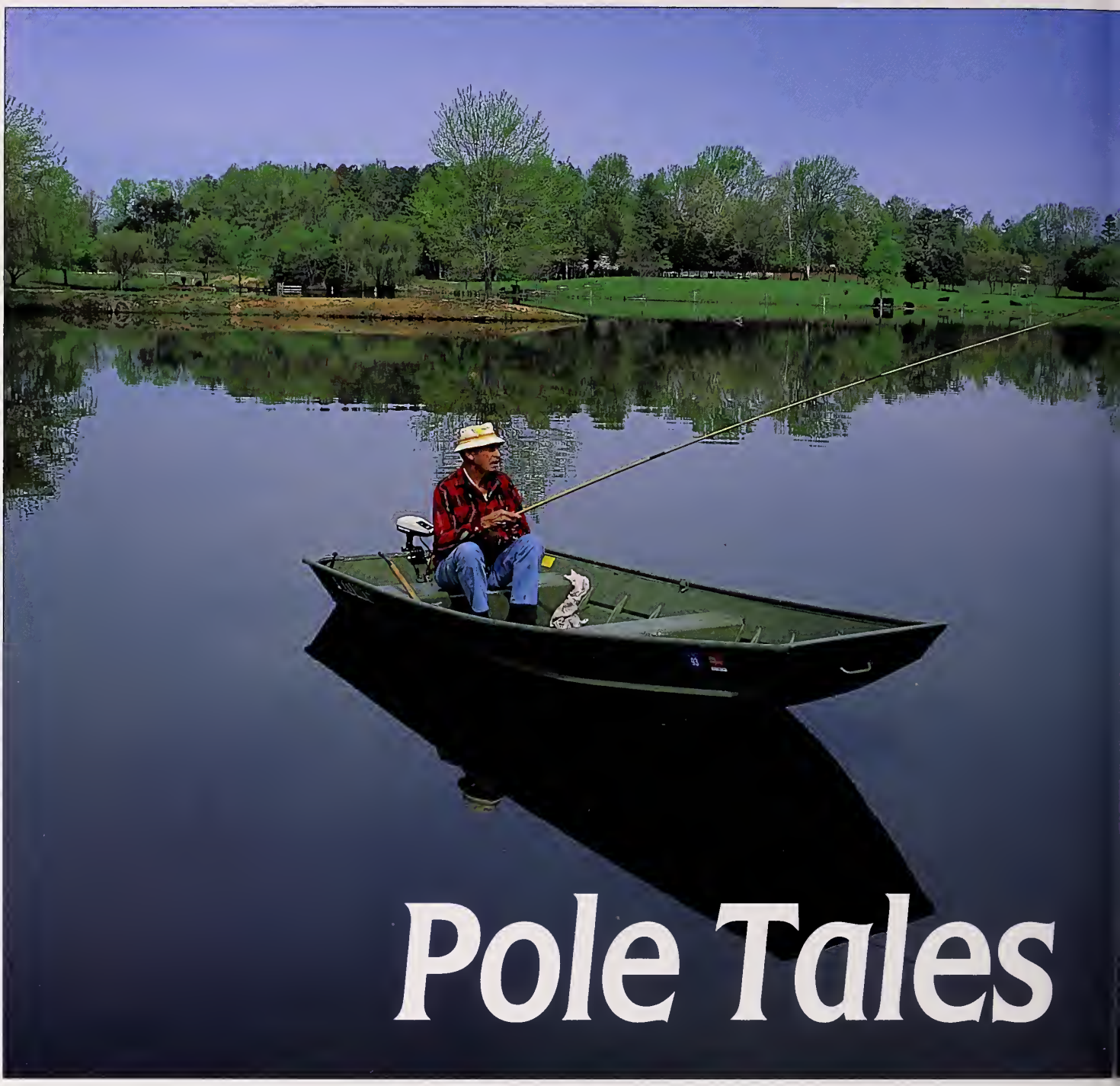
Each sculpture has a purchase price of $325. Turner Sculpture will receive $175 to cover their production costs, while the remaining $150 will be sent to the Virginia Department of Game and Inland Fisheries as your contribution to Virginia's Nongame and Endangered Species Fund. A tax advisor should be consulted regarding the personal tax deductibility of this contribution. Each piece sold will include a certificate of origin and a letter confirming your contribution to the future of Virginia's wildlife.

You may order either the Northern flying squirrel or the Bewick's wren by sending a $325 check for each signed and numbered sculpture to: Turner Sculpture, Box 128, Onley VA 23418. For credit card orders, call: 804/787-2818. **Note:** If you have already purchased a Bewick's wren and would like the same limited edition number in the Northern flying squirrel edition, please send in your order as soon as possible.

Bewick's wren (height: 12 inches) by David Turner. Available for $325.

TURNER SCULPTURE

VIRGINIANS CARE Nongame Wildlife Fund



Pole Tales

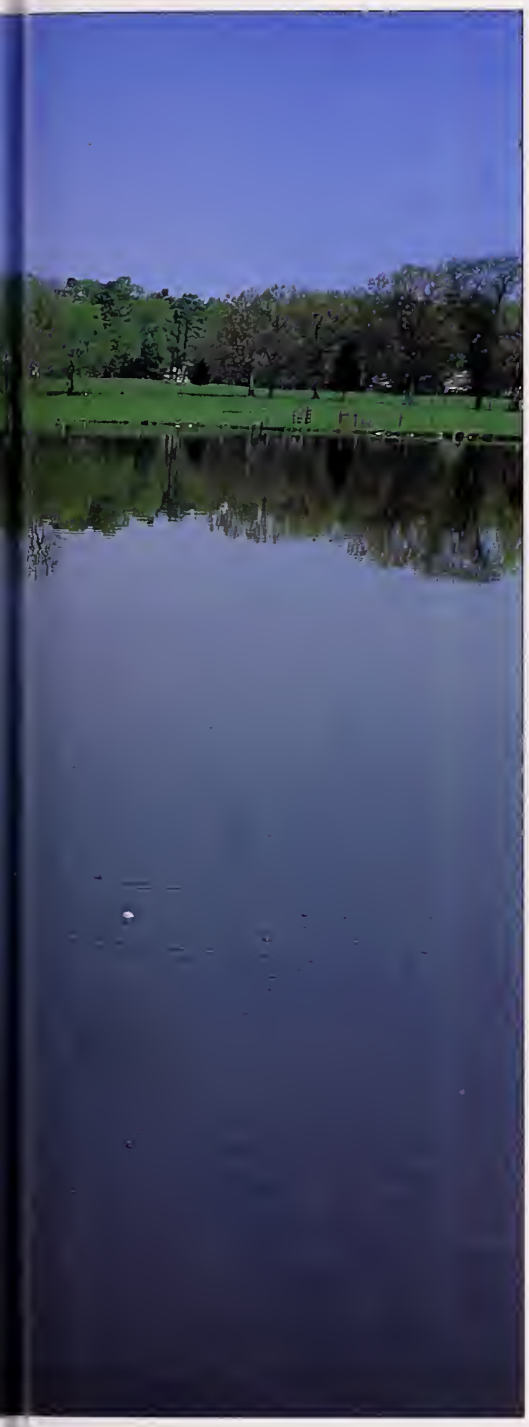
It's simple and fine. It's cane pole fishing.

by Jack Randolph
Photos by Dwight Dyke

Every time I think of cane pole fishing, I remember an old cane pole that belonged to an old man in Oakhurst, New Jersey. Sadly, time has erased his name from my memory, but I remember that pole.

What I remember most about it was the sinker. It was a live .32 round that was just the right weight to stand the bobber on end, which is what a sinker is supposed to do for the cane pole fisherman.

There was a little, nondescript pond in Oakhurst that I fished with him. It was near Delaware Avenue, so we called it Delaware Lake. It probably would never qualify as a lake, but it held some tremendous yellow perch. In fact, I believe the



perch was the dominant predator in that pond. There were no pickerel, no bass, just perch and some sunnies.

Once I caught a perch out of that pond I hesitate to mention for fear it will destroy the credibility of this story. I figure it was 1938 when I caught that fish, which makes me nine years old. With my hand in its gills, a lot of it dragged on the ground. It topped 4 ½ pounds on the grocery store scales. Whoa! Don't reach for your record book. It would have been a new world's record if we hadn't eaten it. But life is full of "would have been's"—particularly if you fish.

Many of us have cane poles entwined in our fond memories of fishing. They were apt to show up anywhere; on the banks of a stream, in a rowboat on a mill pond, or—well, I remember those long bamboo cane poles we used to catch gray trout (we called them weakfish) with from rowboats in Jersey's Barnegat Bay.

In those days you didn't just rent a rowboat, you rented a whole day's fishing. The rental included the cane poles rigged with big, pear-shaped cork bobbers, light sinkers and long shank Carlisle hooks; a couple of quarts of grass shrimp for bait and chum and a tow behind a powerboat far out onto the bay. At quitting time or if a storm blew up, the powerboat would come out and tow us in.

We chummed sparingly, feeding the fish a couple of tiny shrimp every now and then. Our lines, baited with a couple of shrimp on a hook, drifted in the tide and when the trout came, they came with a rush. They hit so hard the bobbers could disappear with an audible "pop." Before long we had a couple of dozen nice weakfish on stringers hanging from the boat.

Occasionally, a big "tiderunner" weakfish would grab the bait. It was simply a case of hanging on for dear life. Sometimes everything would hold together and the big fish would end up on the stringer. And then there were those times when the line would snap or the cane pole would break in two.

In freshwater, when a lunker grabbed our bait and we couldn't handle it on a cane pole, we would simply chuck the pole into the water and let the fish tow it around for awhile. After the fish tired we would row over to the floating pole and resume the battle.

Cane poles are, of course, made of bamboo. The light bamboo canes came in bundles and a few country stores still display bundles of poles for sale. Some were flame-treated, giving them a beautiful spiral design. Others were varnished. Most anglers preferred cane poles that were simply one-piece cane, but two and three-piece jointed poles are still available.

When cane poles were in their heyday, anglers could buy a bit of line fitted with a bobber, sinker and hook that were wound on little wooden or cardboard frames. These were called "furnished lines" and all the fisherman had to do was to attach the line to his cane pole.

When we think of cane poles, we tend to conjure up visions of bamboo. It wasn't always that way. Any straight, lightweight, tapering pole would pass as a fishing pole. The anglers of the last century liked a material called "lancewood." According to my dictionary, many varieties of trees qualified as lancewood, so long as they were straight, light and flexible. The Huck Finns and Tom Sawyers used anything that was handy to make their "cane" poles.

The difference between a fishing pole and a fishing rod, incidentally, is the pole is simply a pole—no guides, no reel, just pole. A rod comes with guides, reel seat and tip.

"Female" bamboo is the lightweight stuff cane poles are made of. Another bamboo, called "Calcutta," was used to make surf rods during

Cane pole fishing may be a nostalgic piece of the past to some, but it's still an effective way to catch fish!

the first half of this century. A good Calcutta rod would last for a couple of fishing seasons if it was cared for. One of the beauties of Calcutta was it was strong and inexpensive. I remember hearing stories of fishermen who headed for Florida with nothing but a reel, a couple of pipe clamps, and a few guides and tips. When they arrived, they would buy a couple of Calcutta blanks, tape on the guides, clamp on the reel and glue on the tip. In 15 minutes they were ready to fish.

Cane poles originally were made of bamboo, and in their heyday you could buy a bit of line fitted with a bobber, sinker and hook that were wound on little wooden or cardboard frames. All you had to do then was to attach the line to the pole and you were ready to fish.

When one thinks of cane poles, he usually thinks of spending a lazy day next to water watching a bobber dance. There's lots to be said for this kind of fishing, but everyone doesn't go for it. I remember encountering one guy at Ed Allen's on Chickahominy Lake who was testing each pole Ed had for sale by working it violently as if it were a fly rod. When he was finished, he had selected a half dozen poles.

Talking to this gentleman, I discovered that his method of cane pole fishing was to tie a length of monofilament line to the pole that was about as long as the pole itself. To the other end he tied a cork or balsa wood bream popper which he worked with the cane pole just as expertly as one would with a fly rod.

When rigging up a cane pole for bait fishing, I like to tie my line to the pole about a third of the length of the pole from the tip. Using half hitches, or any knot that strikes my fancy, I tie the line to the pole at intervals all the way to the tip. From the tip I want a length of line about three feet longer than the length of the pole.

By tying the line at intervals to the upper third of the pole, I have added a little insurance in case the pole breaks. The extra three feet of line, beyond the length of the pole compensates for the length of my arm. This gives a little extra distance to your cast. Monofilament, about 15- pound test, is a good choice.

One problem cane poles present is carrying the darn things. Poles that are 12 to 16 feet long can be a nuisance. This problem and the fact that cane poles seldom last longer than a couple of years has made them vulnerable to being replaced by poles produced by modern technology.

Telescoping fiberglass poles are light, easy to carry and with any care at all, will last a fisherman's lifetime. Despite their considerably higher cost, they are far less expensive in the long run. Poles made out of graphite are more expensive, but they are lighter and have a great action. These telescoping poles come in a number of quality ranges starting with no frills glass poles to custom vinyl wrapped handles and other amenities.

When you purchase a telescoping pole, check out the cap at the base of the largest section. If this cap comes off, all three or four sections of your telescoping pole will come pouring out. You can make sure the cap stays on by gluing it with epoxy. On some of mine I have replaced the cap with a well-glued 12-gauge empty shotgun shell.

These telescoping poles come in a wide variety of lengths and weights, ranging from light six or seven-foot long bream and crappie poles to big 20-footers. Some anglers use poles paired at various lengths. In a boat, a pair of 20 footers are placed opposite each other, followed by a pair of 16 footers and a pair of 14 footers. By slowly moving along, the angler covers a lot of water. This is a popular method for catching crappies at Buggs Island Lake in the early spring.

I guess the longest bamboo cane pole I ever saw in action was being used to catch mullet near Kobe, Japan. The pole was about 30 feet long, so long that the fisherman tied a rock to the butt end to counter balance the weight of the tip.

In some southern states, but not Virginia, fishermen who use cane poles are not considered to be sport fishing and are not required to purchase a fishing license. But, believe me, regardless of what those states say, when you use a cane pole, you're fishing right up there with the best of 'em. By the way, if you are using a glass or graphite pole and hook a big one, don't toss the pole into the water for the fish to tow around—they sink! □

Jack Randolph is a former VDGIF board member and assistant director and an accomplished writer and fisherman.

June Firecrackers

Looking for some fishing excitement to crack the heat of summer? Try fishing for trophy bluegills and shellcrackers in some special tidewater lakes.

by Gerald Almy

Mention panfishing and most people conjure an image of kids with cane poles or old timers resting in lawn chairs waiting for a tiny fish to pull down their red and white cork. That *is* panfishing, to be sure, and it provides thousands of hours of pleasant recreation each year.

But there's another kind of sunfishing, done by some of the most skilled anglers in the state who seek out jumbo bluegills and redears (shellcrackers) using state-of-the-art tackle and sophisticated techniques. The heart of this fishing lies in the tidewater region, in the state's southeast corner. Lake Powell, near Williamsburg, is the farthest inland of the trophy sunfish lakes. Eight others are all clustered around the Norfolk-Virginia Beach area—lakes Prince, Burnt Mills, Whitehurst, Cohoon, Kilby, Smith, Western Branch and Meade.

Many anglers fish for the outsized "bream" found in these public lowland lakes, but perhaps no one is more skilled at catching them than Bill Schieman of Virginia Beach. Schieman is actually talented at catching many fish besides bluegills and shellcrackers. He has registered dozens of citations for species such as bass, stripers, crappie, walleye, catfish, pickerel and white bass. In fact, Schieman has caught so many citation-sized fish that he doesn't even bother to enter them anymore unless they figure as personal milestones for him, preferring to release most of his fish unless he needs a few for a meal. In a typical year he may catch 10 citation-sized largemouths over 8 pounds on artificials from the lakes near his Virginia Beach home. But, the fish that still intrigue him most are the humble bluegills and shellcrackers.

It's a sport on an intimate scale, and Bill says that is part of what draws him to it. He fishes from a small johnboat powered with a 9.9 horsepower motor that he hauls from his station wagon to the boat each day. His tackle consists of tiny reels, sensitive rods and mini-lures fished on gossamer line of 2-4 pound test. With gear of this type, the challenge of catching trophy bluegills is as great as any in angling.

"Size is relative," he says. "On an 80-pound outfit, a 30-pound amberjack might not be as much of a challenge as a 16-ounce bluegill on two-pound line."

I had a chance to fish with Bill recently and find out about his refined tactics for catching big redears and bluegills. We chose Prince for our destination—a gorgeous 777-acre lake where Bill has caught many pound-sized and over bream.

Page 21: Trophy bluegills abound in VA's tidewater lakes; photo by Doug Stamm.
***Above:** Bill Schieman lands a trophy sunfish on Lake Prince, a premier panfishing lake owned by the city of Norfolk; photo by Gerald Almy.*

Setting out shortly after daylight, we crossed the lake to a favorite sunken island and flushed a trio of mallards that chattered raucously before disappearing in the white mist swirling over the water. A great blue heron stalked in the shallows nearby. On the western shore, a snowy white egret fed in statuesque silence.

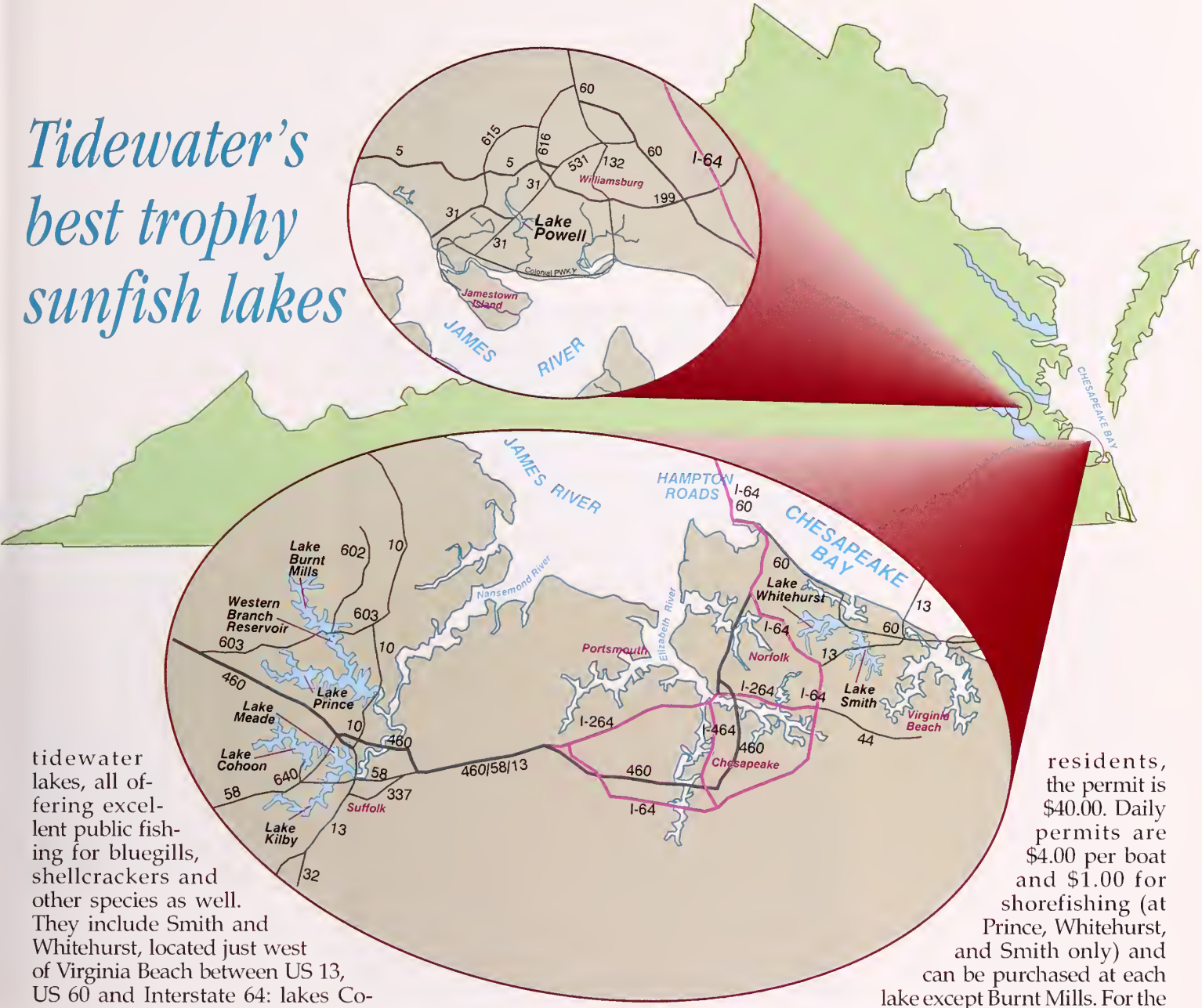
The air was still. Only the plunk of the tiny 1/16 ounce leadhead grubs alighting on the lake broke the soothing quiet of the summer dawn. In minutes Schieman leaned back on his rod and connected with our first fish—a chunky bluegill of perhaps 12 ounces. Another similar fish followed, then I latched onto a 10-ounce.

Easing closer to the underwater island jutting up near the surface in surrounding water 20 feet deep or more, we caught sight of a dark stump barely protruding from the water. Schieman urged me to try it and an electric take pulsated up the line when my jig dropped by the structure. I set the hook and two-pound line peeled from the spool. The rod arched deep, but soon the quarry's struggle softened and Bill slipped the net under a shimmering shellcracker. It was a true citation at 17 ounces—a fine catch anywhere, but particularly noteworthy on a public lake.

"Lots of people talk about pound bluegills and shellcrackers," says Bill. "But these are lakes where you can do that and the fish won't shrink once you place them on certified scales."

Before going into the tactics Schieman uses to catch Virginia's trophy sunfish, let's look briefly at the waters themselves. There are eight

Tidewater's best trophy sunfish lakes



tidewater lakes, all offering excellent public fishing for bluegills, shellcrackers and other species as well. They include Smith and Whitehurst, located just west of Virginia Beach between US 13, US 60 and Interstate 64: lakes Cohoon, Meade and Kilby, just outside of Suffolk and owned by the city of Portsmouth; and lakes Western Branch, Prince and Burnt Mills, just north of these lakes, owned by the city of Norfolk. Stripers, largemouths, hybrids, walleyes, yellow perch, white bass, crappies, shellcrackers, bluegills, catfish, pickerel, carp and gar are some of the species available, but the sunfish, to many, is the most prized quarry.

Three of these lakes—Prince, Burnt Mills and Western Branch offer the best panfish action of all. Burnt Mills, a 600-acre lake covered with flooded timber, was built in 1941. The youngest of the lakes—Western Branch—is also the largest, at 1,579 acres. It is also the deepest, with a maximum depth of 51 feet. It was constructed in 1962 by damming the Western Branch of the Nansemond River. Lake Prince, a 777-acre body of water, is the oldest of the three. It was built in 1921 on the Ennis Pond and Carbell Swamp drainages of the Nansemond River.

Season fishing and boating permits can be obtained for Burnt Mills, Prince, Smith, Western Branch and Whitehurst from either Lake Smith fishing station (804/464-4684) or Lake Prince fishing station (804/934-1297). Seasonal permits are $20.00 for Norfolk residents and all handicapped persons. For all other Virginia residents, the permit is $40.00. Daily permits are $4.00 per boat and $1.00 for shorefishing (at Prince, Whitehurst, and Smith only) and can be purchased at each lake except Burnt Mills. For the Portsmouth lakes of Cohoon, Meade, and Kilby, seasonal permits can be purchased only from the Portsmouth Water Department (804/539-2201) and fees are similar to the Norfolk rates. Daily permits are $4.00 and $1.50 for shorefishing and can be purchased at Lake Meade Bait and Tackle (804/539-6216) on Pitchkettle Road (Rt. 604) off the 58 bypass. Fishing any of these lakes also requires a state fishing license.

Lake Powell is Virginia's final main contender for status as a trophy sunfish lake. This 73-acre body of water is located in James City County off of Rt 31 between Williamsburg and Jamestown. Every year it produces numerous citation sunfish.

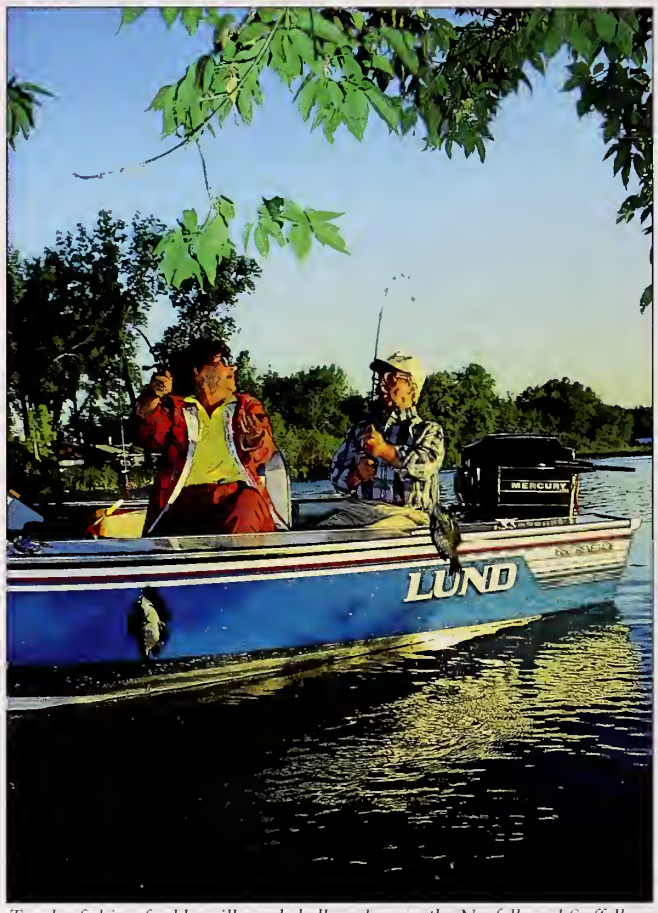
While these are some of the top waters for trophy bluegills and redears in Virginia, there are many other lakes and ponds, some private, some public, that offer excellent sunfishing. The tactics Schieman uses on his favorite tidewater lakes will score on those waters as well.

Contrary to popular belief, Bill says bluegills are quite catchable during winter. His favorite offering for this time is a hammered metal spoon such as the Hopkins in 1/8 and 1/4-ounce sizes. Vertical jigging is the name of the game, and along with 'gills you'll likely catch some white bass, crappies, stripers, pickerel and largemouths.

"First, locate likely structure on the depth finder such as a point, depression in the lake floor, hump, creek channel dropoff or intersection of several stream beds," says Schieman. You can try fishing the structure itself, but it's better if you actually pinpoint fish on it. Work the spoon up and down just off the bottom, or wherever you've located fish, using a "controlled drop" so excessive slack never forms in the line. Expect most strikes as the lure flutters downward.

Once fish start moving out of the depths in March and April, Schieman switches to his favorite method of all—casting and retrieving small leadheads tipped with plastic grubs. Bill likes a 5 1/2-6 1/2-foot rod with moderate stiffness but a fairly limber tip. "A real stiff action is better for setting the hook, but the problem with this is that bluegills are very sensitive to resistance on the line and will spit the jig out before you can set the hook if there's no give in the rod tip when they strike. A limber tip flexes when they bite. Since the fish don't feel as much resistance, they hold on for a second or two more, giving you time to set the hook."

Bill uses a variety of small plastic and rubber grub bodies, preferring those without twister tails for a more subtle action. He feels the sunfish can show a definite color preference from day to day and week to week, so he stocks a wide variety and experiments each day on the water with several hues. Among his favorite colors are black, orange with a brown underside, motor oil, white, smoke, red, and green and black striped. Natural lead, brown or pink are good colors for the jigheads themselves.



*Trophy fishing for bluegills and shellcrackers in the Norfolk and Suffolk area lakes and Lake Powell in Williamsburg is a year-round activity that is guaranteed **fun**! Photo by Doug Stamm.*

Shallow and medium depths can produce in spring when the sun warms coves and bays and the fish move in to feed and prepare spawning areas. The northern shores of the lake are particularly good. Cast to any cover you see, such as brushpiles, rocks, grassy banks and points. If the fish are proving finicky, sometimes Schieman rigs a small Carolina float 12-18 inches above the jig. This allows the lure to be presented next to cover then twitched lightly. If a fish doesn't take, reel in and cast to the next piece of cover. This technique is especially productive right at dawn and dusk.

At times, fly-fishing pays off even better than spin gear for spring bluegills. Use an 8-foot rod with a #5-6 weight forward floating line and a tapered 7-10 foot leader with a 2-4 pound tippet. Size 8-12 nymphs, wet flies and sponge spiders work like a charm on the shallow panfish.

After the sunfish spawn, Bill still catches them consistently, but he switches to deep water fishing. This is where the bulk of large bluegills and shellcrackers spend the summer months when water temperatures soar. "Pick areas similar to those you would fish for black bass," he says. Dropoffs, creek channel intersections, ledges, sunken islands near deep water, points and underwater springs are all prime locations for summer and fall sunfish. Other than the first and last hour of daylight, the shoreline should be ignored.

"You can catch small fish in there by the hundreds, but the big fish hang off from the bank around structure that's usually not visible from the surface," says Schieman. Find these offshore spots and probe them with a slow, steady retrieve with a 1/32-1/8-ounce plastic-tailed jig. Pause occasionally during the retrieve to make sure you are fishing it deep enough—in the 10-20 foot level—where most jumbo bream hang out during summer.

Work the area thoroughly and only then move to another piece of deep-water structure to probe. It's painstaking, demanding fishing, but when you chance onto a school of shellcrackers or brightly-colored bluegills in the 3/4-1-pound class and they begin stripping line from your tiny reel and putting a deep bend in the ultralight rod, you'll find this humble quarry can offer an awful lot of sport per ounce of fish.

Gerald Almy has been a full-time outdoor writer for over 17 years. He is currently a hunting and fishing editor on the staff of

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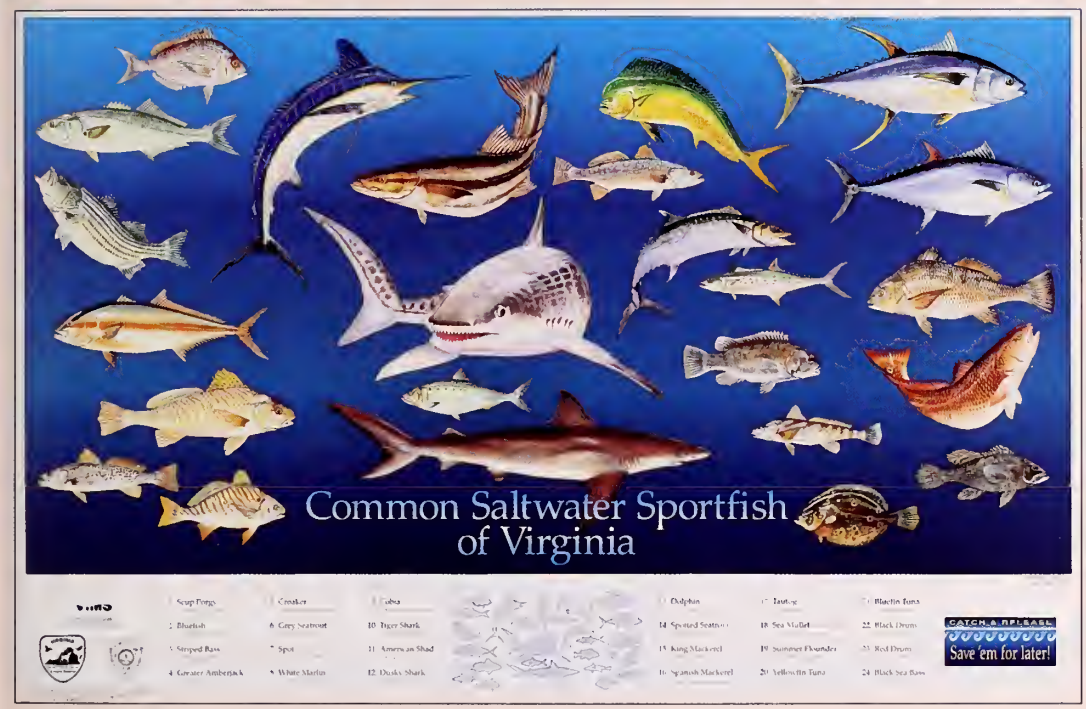

The Virginia Department of Game and Inland Fisheries has produced two full-color fish identification posters. Just released is a 21 ¾" X 34" poster of 24 species of saltwater fish in Virginia. The second is a 21" X 36" poster of 23 freshwater game fish in Virginia. Each is available for only $8! Specify which poster you'd like and send your check (made payable to the Treasurer of Virginia) to: Fish Poster, VDGIF, P.O. Box 11104, Richmond, VA 23230-1104.

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by Bob Henley

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Streamers & Smallm

You can't go wrong with streamers when you fly fish for smallmouths—be it spring, summer, or fall.

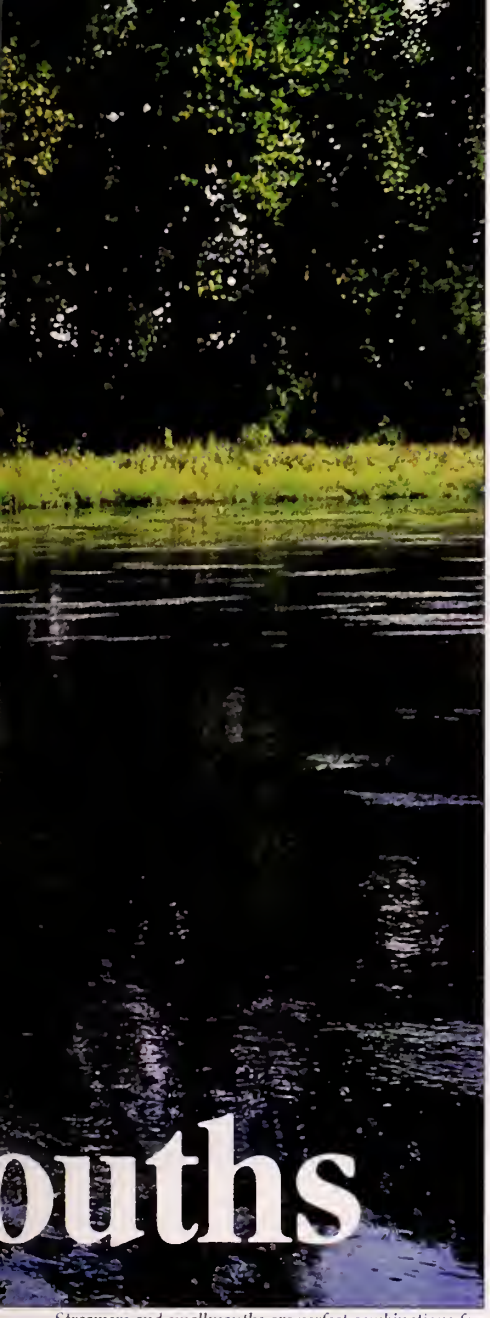
Story and photos by Harry Murray

Fishing streamers for smallmouth bass may be the most efficient means of outsmarting this worthy adversary. These imitations of minnows and baitfish will do the job for you regardless of your level of expertise.

I recently had a troop of 12 to 14-year-old Boy Scouts who were anxious to learn fly-fishing. None of them had any experience, so I put a streamer on each outfit and started the boys out in a shallow riffle. All of the fellows were into smallmouths quickly, and before the day was over some had landed over 20 bass.

Not long after this I was guiding a highly skilled, world famous angler who had started his angling career on smallmouths in another part of the country and just wanted to have a good time catching these old acquaintances. In this case, I had no question of my friend's abilities and confess I just wanted to impress him with the quality of smallmouth fishing we had on the Shenandoah River. I took my friend to a stretch of the river that held many nice smallmouths in the deep cuts between a series of ledges. Here, also, I had him start with a streamer fly. He caught lots of nice smallmouths; in fact, although I didn't stand at his side and count them to verify the statement, he *said* he landed close to 100 smallmouths that day.

All of this goes to show that by being aware of the various food forms available to smallmouths, how



Streamers and smallmouths are perfect combinations for the fly-fisherman from mid-May through the fall.

and when they feed upon them, and the flies we use to match them, we can reap some outstanding smallmouth angling.

Most of our rivers afford good smallmouth action by mid-May. At that time of the year the streams are quite full and smallmouths may be located in all parts of the pools and riffles. I find that a streamer imitating the chubs and dace minnows which are found in a broad variety of waters in May is extremely effective on these fish. Particularly, Ed Shenk's White Streamer and Charley Waterman's Silver Outcast in sizes four and six are my two favorites.

The easiest way to cover a lot of good holding and feeding water at this time of the year is to start at the side of a riffle just where it enters the pool. By casting straight across stream and applying a slow darting action to the fly, we can make it look like a chub minnow swimming across the current. Making each successive cast slightly longer, up to your maximum reach, and utilizing this same retrieve will enable you to cover a lot of water easily. After six or eight casts are made from this same position, I drop downstream about 20 feet and repeat the whole process.

This system enables you to develop a pattern of overlapping casts which, when done correctly, permits your streamers to drift through almost every square yard of the riffle before you. This may sound rather mechanical, but take my word for it—it works!

There is one angling aid that often adds to the effectiveness of this "patterning system" early in the season, and that is a high-density, sinking-tip fly line. The first 10 feet of these lines sink very quickly, getting our streamers close to the stream bottom where the bass are holding. The remainder of the fly line stays close to the surface, which is a great help in strike detection and controlling the drift and action of the streamers. One word of caution when using these sinking tip fly lines; do not use a leader over six feet long or you will lose the advantage they should give you. The sinking tip line works by pulling the leader to the stream bottom and the fly along with it; if the leader is 10 or 12 feet long, the fly may never get down to the fish's level.

This system remains effective throughout the season when we are fishing the heavy runs, but as our rivers recede in late-May and early June there is another aspect of streamer fishing that becomes very productive.

Our freestone streams are loaded with thousands of volleyball to baseball-sized rocks and the undersides of these are the homes for two of the major minnows upon which smallmouth feed—the sculpins and madtoms.

I remember as a youngster selling minnows to the bass fishermen around Edinburg on the North Fork of the Shenandoah River that these were my two hottest items, and during the peak of the season it was almost impossible to keep up with the demand. These two minnows caught lots of bass for those fishermen and our flies can be almost as productive for us, if we select the correct ones and use a little thought as we fish them.

My favorite sculpin imitations are Ed Shenk's Black Sculpin, Whitlock's Sculpin and the Spuddler. Since all three of these were developed by good friends of mine, it is a little awkward to select one which is "the best;" rather, I will venture that under certain conditions each has its advantages. Admittedly, it seems that I take more bass on Shenk's Black Sculpin than the others. Sizes four, six, and eight are about right for all sculpin patterns.

There are certain hotspots within most rivers that I count on to provide good sculpin and madtom populations and thus to produce well with these streamers. The rubble to small-boulder bottoms immediately below heavy riffles and major ledge outcroppings along with the freestone littered river edges along the banks almost always give us lots of good smallmouth action on Sculpin streamers.

Below the ledges and riffles, I fish these streamers much like I do the chub type mentioned earlier, except that now I make a concerted effort to fish my Sculpins right on the bottom and move them as slowly as possible. Remember, the real sculpins and madtoms are bottom huggers and that's where we want our flies. Sure, you're going to lose some flies; that can't be avoided (if it really bugs you, take up golf).

In order to fish the rock-strewn bank edges, I like to position myself about 50 or 60 feet out in the river and cast straight in toward the bank. I drop my Sculpin Streamer in very close to the bank and bring it alive instantly with a slow stripping action. These areas usually possess a good

current and it is not necessary to retrieve the fly at a fast pace in order for it to look appealing to the bass (in fact, it would work against you).

If we have read the river correctly and selected the proper bank to fish, the real hotspots will be from the bank out into the river for five to 10 feet. Beyond that distance we usually have a slightly different stream bottom composition and have lost our natural sculpins and madtoms.

Thus, I'll do everything I can to make my streamer look alive in that first 10 feet, and if that does not bring any strikes, I'll pick it up and recast it back in tight to the bank three feet downstream from the last offering. I'll often do this for a mile or so of a river bank if it has good bottom cover for both the minnows and the bass—it's a very easy and very productive approach.

A tactic quite similar to this, but practiced on an entirely different type bank, comes into its own in mid-June. At this time the tadpoles can be seen by the thousands on the muddy flats and slight back eddies along the stream bank.

The natural tadpole was the secret weapon of the most successful bait fisherman I knew as a youngster. He kept a large stash hidden in a minnow box in a spring that I discovered by accident and was instantly sworn to secrecy.

Shenk's Black Sculpin and Murray's Black Strymph are good imitations of the real tadpoles. Since the naturals are in shallow, slow water along the banks, the bass are very spooky when feeding on them. Again, we should be out in the river casting toward these banks, but this time doing it very cautiously and delicately to prevent scaring the bass that are there feeding. Often the slightly deeper water immediately adjacent to these mud flats can produce good bass that take our offerings as tadpoles that strayed a little too far from home.

By summer, small sunfish fry are present in most of our smallmouth waters and provide easy targets for the hungry bass. Although it is not legal to use real sunfish as a natural bait for bass fishing, there is nothing wrong with using a fly which is tied to imitate the sunfish. Not only does the James Wood Bucktail do this, but it does it so well that if I am fishing a section of smallmouth water adjacent to sunfish waters, I will often use this fly exclusively all day long. It has never let me down. My favorite sizes in this pattern are sizes two and four on a special short shank hook.

I like to fish these down and across streams with a slow line hand stripping action. The moderate current areas in two to four feet deep water that are close by the sunfish spawning beds are the best areas to cover.

Several years ago I awoke to a situation which now provides me with some of my most dependable smallmouth fishing. For 20 years I'm sure this had been happening right before my eyes but I was too unobservant to "see" it.

The day I "discovered" this windfall I had seen many rises to a thick hatch of Trico mayflies that were emerging. But, assuming they were all small fish, I elected to continue fishing with the number six White Shenk's Streamer I had on. Noting a flash of a fish's side below some of the rises, I cast my streamer above the action and brought it right into the area I had seen the flash.

Instantly, I had a jolting strike and finally landed a very large smallmouth. As I removed my streamer from his jaw I noted something protruding from his throat; pulling out his would-be dinner revealed a real shiner. As I held that natural minnow and my Shenk's White Streamer side by side in my hand, I realized my fly was almost a photocopy of the natural minnow the bass had taken only seconds before. I had accidentally duplicated what nature was doing; the minnows had moved in to feed on the mayflies, and the bass had moved in to feed on the minnows.

I have profited from my accidental finding and cashed in on this fabulous action hundreds of times since that day. You can, too. Simply watch for the minnows and small fall fish working on top and then cast your streamer (Shenk's White Streamer or Murray's Cream Strymph are good here) and retrieve it with a darting action about two feet under the surface. This works best in water three to six feet deep. In water shallower than three feet deep, the bass seem to be a little skittish. And when the water is much over six feet deep, the bass

don't seem to be aware of the minnows' feeding spree above them.

From midsummer until October, especially early in the morning and late in the evening, smallmouths can often be found feeding on schooling minnows over shallow gravel beds and around aquatic grassbeds. Since the water here is often very shallow, the commotion made by the min-

***Opposite**: Searching tactics are often best early in the season. Here the author uses a size six Shenk's White Streamer to imitate chub minnows.*
***Above**: A selection of smallmouth bass streamers.*

nows running to avoid the bass will tip you off to this type action.

In many cases, these will be some of our largest bass; they did not reach this size by being stupid and they will not hold in real shallow water very long, regardless of all those groceries. They play a hit and run game, grabbing only a few minnows before returning to the safety of deeper water close by. After a few minutes, they will return and feed again.

There are two ways to fish this setup. You can wait until you see the minnows running from the bass to cast a fly (such as a number six Waterman's Silver Outcast) out in front of the school of minnows, and retrieve it perpendicular to the path of the oncoming bass. This can be very effective if the bass are feeding frequently in a fairly confined area and if you can get a fly to them quickly. Last year, I took advantage of this with one of my bass fly fishing schools. I knew one section of the South Fork of the Shenandoah River close to Edinburg in which the bass frequently feed in this manner. I had two of the fellows wade quietly to within casting distance of these grass beds and just wait for the bass. It wasn't long before the bass were out chasing minnows and the anglers got into some exceptionally large fish.

The second way to fish this minnow-chasing setup is go to an area containing several grassbeds or gravel bars around where you have seen bass feeding in the past. Rather than waiting until the bass actually show themselves in the shallows, you can methodically fish the dropoffs where the shallow water meets the deep water. The bass here are accustomed to feeding on the silvery schooling minnows, even picking off a few as they accidentally stray from the protection of the shallow water, so casting flies onto these shallow edges and working them out into the deeper holding areas can be very productive. My favorite streamer is the Waterman's Silver Outcast, since it looks much like many of the minnows in these areas and its style of tie enables it to come alive the instant it touches the water.

Many of the tactics just mentioned work well in the fall but for the last several years some of my most consistent smallmouth catches after mid-September have been on leech imitations.

A Black Fur leech in sizes four, six and eight has to be one of the all-time best smallmouth flies ever devised. The pattern we're having such good success with now is one I adapted from a fly Ed Story of Missouri sent about 10 years ago. An effective leech pattern must look alive in the water with almost no action being imparted to it by us. When you consider the areas in which the real leeches live and watch their methods of movement, it quickly becomes apparent why we need these properties in our imitations.

Examining the locations smallmouths seek out in our streams and their methods of feeding in the fall quickly reveals just why a deep riding, slow wiggling leech fly can be so effective. Every fall, I drive by many miles of two rivers which produce excellent smallmouth action all summer in order to reach what I consider to be the finest stretch of smallmouth water in the state for fall fishing. It is a beautiful cut about six feet deep between two ledges which are about one hundred feet apart running two hundred feet across the river. This is the deepest pool for several miles up or down the river and the bass really concentrate here.

Having a depth of six feet could give the false impression that these bass are not easily scared, but I found out the hard way this was not the case. I get my best results fishing this area from downstream by casting straight up into the current and letting my leech sink all the way to the bottom. I then bring it back very slowly; retrieving it only fast enough to keep it from hanging on the bottom. I never like to see a bass season come to a close, but I must admit that I look forward to fishing this fall hotspot with great enthusiasm each year.

Smallmouth bass fly tackle is every bit as demanding as the best trout tackle. The fly rod should be between 8 ½ and 9 ½ feet long and handle a seven, eight or nine weight forward fly line. It is imperative that the tip be strong enough to cast large heavy bass flies. I have one rod which is 9 feet long that balances with a number seven line, but it is designed for Western trout fishing and is a total disaster on the bass streams due to its slight tip. I run into this a lot in my bass fly fishing schools. Seek good advice before parting with your hard-earned money.

Bass leaders are almost as important as the rods. We must have moderately stiff compound tapered leaders with long butt sections and tippets tapered down from 0x to 3x depending on the fly size. I do not like any bass leaders less than nine feet long, except for use with sink tip line, and I will often go to leaders 12 feet long for low water conditions.

Single action fly reels which will hold the whole line and 50 yards of dacron backing are ideal for bass fishing.

Get your tackle together and put some streamers in your pocket. You're ready for smallmouth fly fishing. □

Harry Murray is a freelance writer who teaches fishing and fly tying in Edinburg, Virginia.

Journal

Warden of the Year

Sergeant Gary "Mike" Bise, 36, Bassett, Virginia, was named Warden of the Year for 1992. A veteran of over 12 years, Bise was chosen out of nominees from the five departmental regions by a committee of his peers, all of whom were former winners of the award. Nominations were initially made by the captains of each region.

A native of Glade Spring (Washington County), Bise began his career with the Department on May 16, 1980 and was assigned to Henry County where he has remained ever since. On January 1, 1989, he was promoted to sergeant over Henry, Patrick and Pittsylvania Counties.

According to Major Lewis W. Brandt, "Sergeant Bise has demonstrated excellent leadership skills in the performance of his duties, and his performance rating is exceptional. Sergeant Bise has not only been an excellent game warden and sergeant, he has established an outstanding reputation for himself and the Department in his community."

Region II Captain John Heslep said: "Sergeant Bise has an outstanding work record," and "has done an excellent all-around job since he walked into Henry County. He's an excellent officer and has backed up his law enforcement work with a good public relations effort." Heslep echoed Brandt's comments that Bise has established an outstanding reputation for himself and the Department in Henry County and the surrounding area.

Bise says his biggest satisfaction from his job is the "feeling that I make a difference, both with the people and with the resource. Through educational and law enforcement work, I get a double dose of satisfaction."

Bise says he enjoys the diversity of Henry County. "There's a lot to do in regards to wildlife, as well as boating law enforcement on Philpott Reservoir and nearby Smith Mountain Lake."

According to Major Brandt, Bise has developed a lesson plan for teaching game laws which has been used both in basic academy classes and in Hunter Education Advanced Training classes. He also assisted in developing a survival class which he has given at numerous State Department of Education workshops at the Smith Mountain Lake 4-H Center.

During the past year, Bise was honored by the National Water Safety Congress for his work as a member of the Philpott-Fairy Stone Safety Council.

As to the future, he says he hopes to continue a strong law enforcement program, which he considers "vitally important to the resource" as well as a strong educational effort, especially with the young people whom he says "are missing out," when it comes to their closeness, respect and understanding of the outdoors. □

There's lots of learning and fun that goes on at the Virginia 4-H Jr. Olympic Shooting Sports Camp; photo by Mike Clifford.

4-H Shooting Sports—For Life

For most of us, the dog days of summer are spent in air conditioning or swimming pools. But for some 70 youngsters who participated in the Virginia 4-H Jr. Olympic Shooting Sports Camp at Holiday Lake 4-H Educational Center in Appomattox last summer, they used these days to learn skills that will last a lifetime.

Fifty-five boys and 12 girls ranging in ages from 12 to 16 attended this intensive, week-long training session in shotgun, air rifle, air pistol, and smallbore rifle, an event sponsored by the Virginia Cooperative Extension Service, the Virginia State Rifle and Revolver Association, the Virginia Department of Game and Inland Fisheries, and the National Rifle Association. At the end of the week, the top scorers in each discipline were nominated to attend the Junior Olympic Achievement Camp held at the Olympic Training Center in Colorado Springs.

Said Paul Benneche, University of Virginia's rifle coach, chairman of the 4-H Shooting Sports Committee, and chief instructor in the smallbore rifle at the camp: "These sports teach mental discipline. You must control your emotions to remain focused for your next shot. And, of all the sports I can think of, with the exception of playing tiddlywinks or cards, this is one of the safest. People don't normally think that way, but if you think of football, soccer, basketball, or any other sport, sooner or later you're probably going to suffer some kind of injury. When these parents send their kids to the range, they don't expect their kids to come home hurt. We realize there is the potential, but because we realize that exists, we take every precaution against it."

Each participant who arrived at the camp picked a specialty to concentrate on for the entire week. No one was expected to be an expert, though some familiarity with the

shooting sports was required. Each day, the youngsters rose at 7:00 a.m., received four hours of hands-on instruction from 8 'til noon, and then were back at their sport from 1 to 2:30 p.m. (The rest of the afternoon and evening was reserved for swimming, canoeing, fishing, volleyball, basketball, and special programs on such things as archery, muzzleloading, snake and wildlife identification.)

The camp for these youngsters which is held every year hones skills which don't need to fade with age. As Benneche put it: "These are the only sports I can think of that people can participate in literally for their entire lives. The sports do not discriminate between men and women, the young or the old. It's nothing for me to be shooting against teenagers and octogenarians on the same firing line, right next to one another, and all of us being of equal quality."

If you are interested in learning more about the 4-H shooting sports program, contact your local county extension agent. If your county doesn't have an active shooting sports program, contact Richard Pulliam at Holiday Lake 4-H Education Center, Inc., Route 2, Box 630, Appomattox, VA 24522, phone: 804/248-5444. □

Letters

I am normally not a letter writer, but I wanted to take this opportunity to tell you how much I enjoy your magazine.

The quality of the photographs is out of this world, and the articles are always helpful in giving the reader a little more appreciation of the beautiful natural surroundings in which we live.

I truly look forward to your magazine each month. I have come to know and love Virginia in a way that I could not have but for the naturalistic insights given me by your magazine.

Keep up the good work.

James Kestrell
Washington D.C.

We have been subscribing to *Virginia Wildlife* for many years. I have enjoyed it as much as my husband did. Although he passed away several years ago I want to continue receiving it. When I finish with them I pass them on to my nephew.

Years ago I cut the full page pictures you used to have of wildlife in each issue and filed them in plastic covers with your descriptive write-ups of each and put them in notebooks. They perch on my coffee table where so many people have enjoyed them.

I have bluebird houses in my backyard and several bird feeders. I enjoy watching the birds.

Neva Brooks
Yorktown

Please send a subscription of your magazine. I have been impressed with the quality of recent issues and the topics covered. Last May's focus on neotropical songbirds by Dana Bradshaw was exceptional and I also enjoyed the "Stewards of the Land" edition in December.

A few years ago I dropped my subscription because I felt your stories focused so much on hunting/fishing that you did not consider a broader audience of wildlife admirers. Seeing recent issues convinced me you have changed your approach and I want to support your efforts. I do not mind some stories on hunting and game animals, but I personally appreciate more stories covering the "other" (often forgotten) wildlife of Virginia and the habitat loss problems facing our state.

Could you possibly begin my subscription with a copy of the January edition (Southside VA Special Photo issue). I saw a copy recently and would love to have the issue. The photography was outstanding! Sometimes a picture says more than words and I think this issue will "reach" lots of people by showing them the priceless treasures of our state. I'd like to share the issue with my students.

Tamra L. Willis
Mt. Crawford.

Take a friend fishing

National Fishing Week

June 7-13, 1993

Note to Subscribers

Under the provisions of the Freedom of Information Act, we must respond to requests to release the names and addresses of our subscribers. This year, however, the General Assembly passed a law allowing the subscribers to *Virginia Wildlife* to exempt their names and addresses from any lists we are obliged to release. To make the procedure simpler for you, we have provided a space on all new and renewal subscription forms which you may check to exempt yourself from any magazine subscriber lists we send out. If you would like more immediate action, simply let us know in writing (*Virginia Wildlife*, P.O. Box 11104, Richmond, VA 23220-1104).

Recipes

By Joan Cone

Enjoy Bass With These Fillets

A bass is too important to be caught only once. That is why many anglers practice catch and release. However, there are instances when a fish is hooked in the gills or becomes incapable of surviving. There is no point in returning a dying fish to be eaten by birds or turtles. Besides, bass are delicious.

Bass to be kept should go directly on ice rather than into a warm water live well. Largemouth bass should be filleted and the fillets skinned to eliminate the so-called "muddy taste." As most smallmouths are taken in cold, clear water, filleting may not be necessary.

This microwave recipe is a good way of preparing those bass you decide to keep.

MENU

Bass 'N' Rice
Tomato-Bean Sauté
Dilled Cucumber Salad
Caraway-Beer Biscuits
Lemon Fluff Pie

Bass 'n' Rice

(For microwave)

1½ cups quick-cooking rice
¼ cup shredded carrot
¼ cup thinly sliced celery
2 tablespoons margarine or butter
1½ teaspoons instant chicken bouillon
Grated peel of 1 lemon
¼ teaspoon poultry seasoning
1½ cups boiling water
1 pound bass fillets, skinned
Juice of ½ fresh lemon
Paprika
Salt (optional)

MICROWAVE—High Power Setting

In a 12 x 8 x 2-inch glass baking dish, combine rice, carrot, celery, 1 tablespoon margarine, bouillon, lemon peel and poultry seasoning. Stir in boiling water. Cook, covered, with waxed paper for 3 minutes. Uncover; stir rice. Arrange fish over rice (placing smaller pieces in center). Sprinkle with lemon juice, paprika, salt and dot with remaining 1 tablespoon margarine. Cook, covered, 8 to 10 minutes or until fish flakes easily with fork. Garnish with lemon wedges and parsley, if desired. Makes 4 servings.

Tomato-Bean Sauté

6 tablespoons margarine or butter
1 small onion, minced
4 medium-size ripe tomatoes, peeled and diced
Salt and pepper
2 cups green beans, sliced and blanched for 2 minutes

Melt margarine in a 2-quart heavy saucepan. Add minced onion and sauté until onion is transparent. Add tomatoes and toss with salt and pepper. Simmer another 3 or 4 minutes to blend flavors and then toss beans with the tomatoes and let remain over heat just long enough to heat everything through. Makes 4 servings.

Dilled Cucumber Salad

2 medium cucumbers
2 tablespoons cider vinegar
3 tablespoons plain low-fat yogurt
1 teaspoon sugar
1 tablespoon chopped fresh dill or ¼ teaspoon dried dill
¼ to ½ teaspoon salt
⅛ teaspoon pepper

Trim off ends of cucumbers. Cut cucumbers into thin slices and place in a bowl. Add remaining ingredients and toss to mix. Chill for 2 to 3 hours. Makes 4 servings.

Caraway-Beer Biscuits

2 cups biscuit baking mix
½ cup beer or milk
1½ teaspoons caraway seeds
1 teaspoon sugar

Heat oven to 450 degrees. Mix all ingredients until soft dough forms. Beat vigorously for 30 seconds. Turn onto surface well-floured with baking mix. Gently roll in baking mix to coat. Knead 10 times. Pat or roll dough ½ inch thick. Cut with 2-inch cutter dipped in baking mix. Bake on an ungreased cookie sheet until golden brown, 8 to 10 minutes. Makes 10 to 12 biscuits.

Note: Before baking, biscuits can be covered and refrigerated up to 12 hours.

Lemon Fluff Pie

1 package (3 ounces) lemon-flavored gelatin
1 cup boiling water
½ cup cold water
1 carton (8 ounces) lemon yogurt
1 container (8 ounces) frozen whipped topping, thawed
1 graham cracker crust (9 ounces)

Combine gelatin and 1 cup boiling water, stirring 2 minutes or until gelatin dissolves. Add ½ cup cold water. Chill until the consistency of unbeaten egg white. Fold in yogurt and whipped topping. Pour into graham cracker crust. Refrigerate until firm. Makes 8 servings. □

Photo TipS

By Lynda Richardson

A Season on Spots

Spots come in many different sizes, shapes, and places. It's up to a creative photographer to find the "spots" in wildlife, like in this jaguar! Photo by Lynda Richardson.

I was seeing spots before my eyes. Refocusing the lens, I fired off a few more frames. But the spots were still there—thank goodness. My eyes scanned the terrain for more. Stealthily, I maneuvered down a path and suddenly stopped in my tracks. Stripes!!! Yipes!!! I was tempted. Boy, was I tempted! My index finger itched on the shutter release. Control, control...After all, I was after spots and spots alone.

As I moved away from the jaguar exhibit and passed anxiously by the tigers, I distracted myself by thinking about food and walked over to the refreshment stand. Torn by the delectable selection (corn dog, cotton candy, and popcorn), my eyes wandered until they fell on SOMETHING ROUND! Strutting amid showers of popcorn, a male peacock proudly displayed for a hen as she gobbled up white, fluffy kernels thrown in waves by mothers and their overzealous toddlers.

As I stared, hundreds of emerald green eyes returned my gaze. Shimmering in the afternoon light, the cock bird's famous eye spot plumage winked, tormenting and challenging me. Cautiously, I grabbed a short telephoto out of my shoulder bag. Watching my subject, I planned an attack through the baby strollers parked near a bench. Adrenaline churned through my veins. Of all the spots I'd shot today, this was the spot of spots, the circular of circular, the ringer round, the Triple Crown of Spot Spotting.

Slowly, slowly, I wedged my way into the crowd. Lifting an eye to the camera, the scene fell into a rectangle and I concentrated on focus and composition. Light rolled onto the spots and they glittered back at me, swaying back and forth to the movement of the bird. Finally, the moment came when all fell into place. Flying popcorn and camera-mugging kids were out of my line of fire, so I took picture after picture. In my heart I triumphed, for I had shot the jewel of spot photography.

On a trip to the zoo, I picked "spots" as my theme for a photographic challenge to discover patterns. But this isn't necessarily an article on spots. It's an article on patterns. For our purposes, *Webster's Dictionary* defines a pattern as "an artistic or mechanical design" and "a natural or chance configuration." In the first definition, a pattern can be created by the manipulation of design elements in the same way an artist paints a painting or a seamstress organizes a quilt. A pattern can also be a found element. In nature, frost on a window pane, duckweed floating on a pond, masses of tiny shells washed up on the beach; all can create an infinite number of natural patterns.

Since the world is made up of many patterns, it's hard to know where to begin when one wants to photograph them. I would start in your own backyard. Look at the bricks on the side of your house. How about the flowers in your garden, the bark on your trees? Using a macro lens, you could photograph the small patterns in a flower head or detail in grains of sand. A telephoto or wide angle could show a broader pattern encompassing larger objects such as trees or boulders.

As you photograph various patterns, don't forget the rules of composition. (For example, see "Rule of Thirds," Photo Tips, *VW* June 1991) Look for symmetry and asymmetry in your subject. Symmetry is a "form arising from balanced proportions" such as a starfish or a daisy. Asymmetry is a form arising from unbalanced proportions. But, though rules were meant to be followed, don't be afraid to break a few. An observant and creative photographer can take one subject and produce many photographs illustrating patterns. It all depends on your vision and creativity.

This spring and summer, challenge yourself to hunt for patterns. Don't be afraid to experiment. And as mentioned in the May "Photo Tips" column, don't forget to enter your best pattern photographs in the "Your First Magazine 'Assignment'" contest! GOOD LUCK! □

Safety

by Col. William Antozzi, Boating Safety Officer

Recreational Boaters Accused of Pollution

As many as 6,000 boats frequent Chesapeake Bay and its tributaries on summer weekends, according to a 1991 newsletter published by the Virginia Council on the Environmental Coastal Resources Management Program. And, some writers have expressed concern that the popularity of the Bay among recreational boaters has led to an increase in raw sewage discharge.

The Virginia Department of Health (VDH) has estimated that these recreational boat users discharge more than 20,000 gallons of raw, or partially treated sewage, directly in the Bay each day while boating. Though the individual discharges of each boat are small, the combined discharge from these vessels could be significant, especially around local marinas, piers and in smaller tributaries.

If the figure of 6,000 boats is used, and it is believed that they discharge 20,000 gallons of sewage per day, that amounts to over three gallons of discharged sewage per boat each day. If we use the Coast Guard's estimate of about three people per boat as an average, that means each person aboard must generate over a gallon of sewage per day.

Sewage finds its way into macerator-chlorinator type heads, holding tanks, porta-potties, or buckets. There are many small boats (less than 26 feet) on the Bay and most of those use porta-potties or buckets, while the really big boats use macerator-chlorinators or holding tanks, which usually do not discharge into the Bay or its tributaries. Small boat users are encouraged to dispose of the contents into public sewers when they reach shore. That means that they must carry the container to where it is dumped, rinse it and return it to the boat. There is little doubt that some boaters are loath to go through that routine and they surreptitiously dump the contents overboard.

According to the VDH, more than 200 public and private pump-out facilities exist throughout this tidewater area, but most are seldom used. To help boaters locate the facilities, the VDH has signs to place at marinas or docks and charts as handouts at boating courses or booths. In addition, the VDH has launched many programs and distributed pamphlets and posters to discourage dumping, and in some measure it has paid off. Conscientious boaters will properly dispose of sewage.

Recreational boaters, however, may pollute much less than some people think they do because most are not out on the water for long periods at a time. Also, most boaters are interested in pollution abatement because they believe that clean water enhances their enjoyment of that great natural resource. But, with more boats on the water each year, it is becoming increasingly important that each boater realize his or her responsibility to the environment— and act on it. □

Boaters need to be especially careful about properly disposing of their wastes to maintain healthy fisheries in our waters; photo by Soc Clay.

National Safe Boating Week is June 6–12, 1993

By Spike Knuth

Ducks in the Trees

The month of June signifies the beginning of summer. That first rush of warm weather with blossoming flowers and shrubs that gave us spring fever is now behind us. Now we and wildlife settle into a summer routine. Green is Nature's color of choice. Trees are already nearly fully leafed. Fields and marshlands are green with lush growths of a variety of plants.

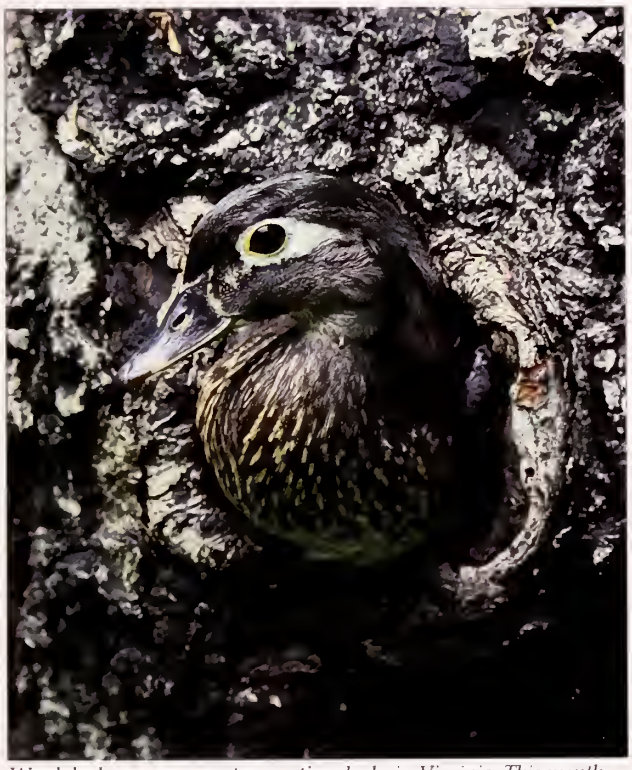
On a marshy pond, a wood duck hen leads a chain of fluffy young on a crooked trail through the lily pads. They mimic her every move, appearing as if tied to her. It wasn't too many days ago that they had jumped confidently from their cavity home to the marshy grasses below.

Generally we might not picture ducks as birds that are at home nesting in trees, yet there are at least five species that regularly nest in cavities. Four of the five are regular winter migrants and visitors, while the fifth is a common breeder in the Commonwealth.

Wood ducks are common nesters in Virginia. They pair up as early as mid-February in tidewater, a month or so later in the mountains. They seek out natural cavities or old pileated woodpecker holes, usually near water, but not necessarily over it. "Woodies" have responded favorably to man-made nesting boxes, which has had a positive effect on their overall populations.

Upon hatching, the downy young climb up to the opening of the nest cavity and jump out after much pleading by "mom." They may drop as far as 40 feet or more, bouncing like balls of cotton, unhurt. The hen then leads her babies to the protection of bigger water.

While it is fairly well known that woodies nest in trees or nesting boxes, many don't realize that this same scenario is taking place with four other species on the forested lakes, rivers and ponds of the northern United States and in Canada. Buffleheads, goldeneyes, hooded mergansers and common mergansers also nest in tree cavities or rotting upright stumps.



Wood ducks are common tree nesting ducks in Virginia. This month look for the hen with a brood of fluffy young; photo by Gary Meszaros.

The female bufflehead chooses a tree cavity which, as long as it stays standing, may be her home for three or more years. She favors quaking aspen, and Douglas fir snags, but will also nest in poplar, cottonwood and pines. Like the wood duck, she'll often nest in an old woodpecker cavity. She'll lay six to 11 eggs, and when they hatch, she will lead them to the protection of open water if she's nested on a small pond.

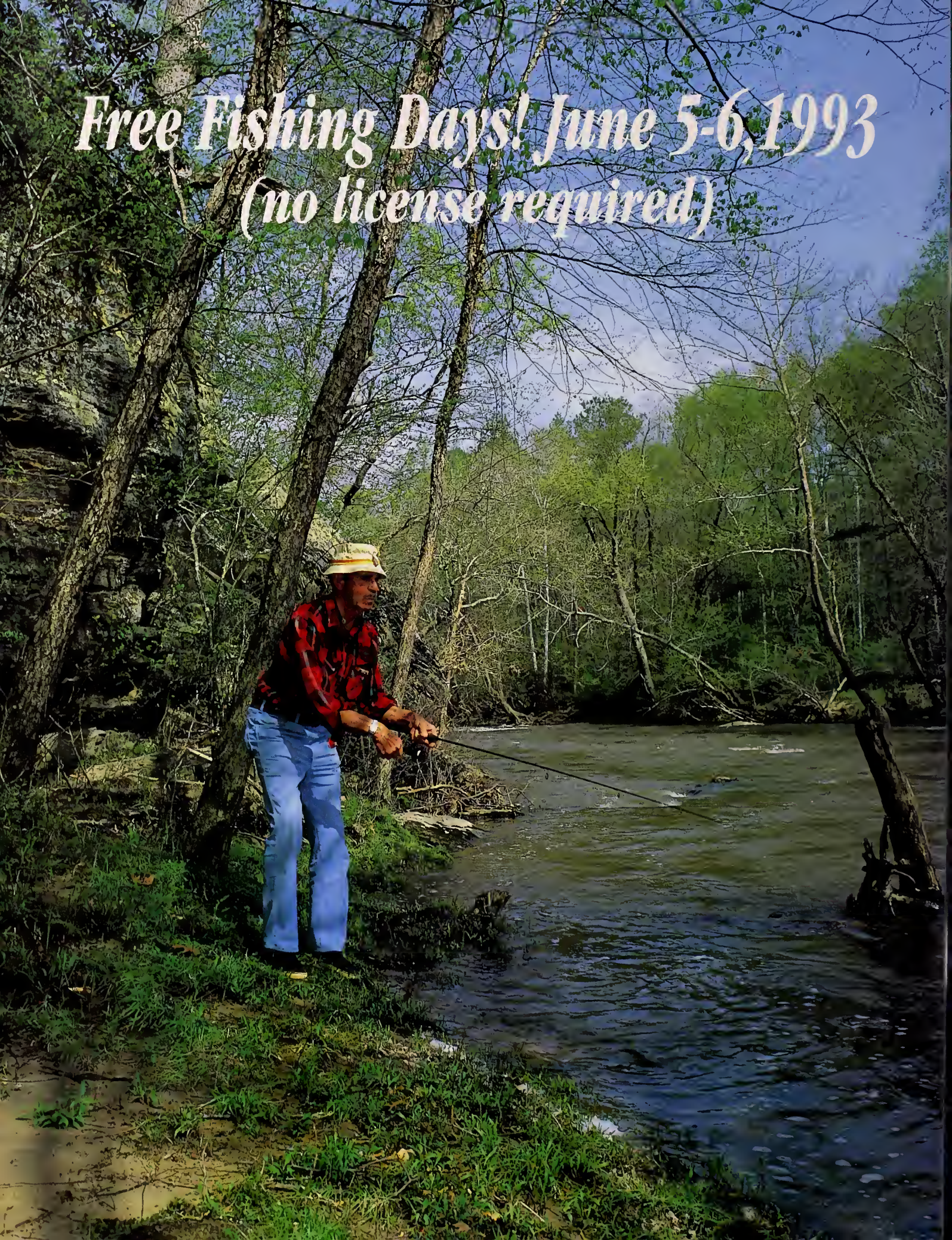
Goldeneye hens choose open top tree cavities on a trunk stub near or over water. They, too, will utilize pileated woodpecker holes and there are records of them nesting in chimneys of isolated cabins.

Like the wood duck, goldeneyes can be attracted to man-made nesting boxes. The hen lays seven to 12 eggs and the hatched young exit in much the same manner as the wood duck chicks. The use of nest boxes has been common for many years in the far north of Europe and Asia.

The hooded merganser hen also chooses natural or expanded woodpecker holes in trees near or over standing water. Some eight to 12 eggs are laid. Hoodeds tend to be tied more to swamp-like habitat than other ducks.

The common merganser, a big "fish duck," will also occasionally nest in tree cavities, although it primarily nests under large boulders, under uprooted trees or in rock cavities. For many years, they too, have been drawn to use nesting boxes in Sweden and Finland.

Just because they are large and their feet are webbed, doesn't mean these five species of ducks aren't at home in trees. They have no trouble entering and exiting their tree cavities or nest box holes on the fly; they can perch on branches without much trouble and are very adept in flight at snaking through the trees at good speeds. These are our ducks in the trees. □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